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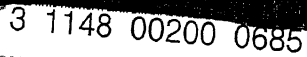
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# *Kalahari Sand*



# *Kalahari Sand*

BY

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## Preface

IT is a species of arrogance akin to insult for a passing visitor to write a book about a country when there are residents there who know far more about it than he does. How then may this author make his peace with the people of the Kalahari?

He can, and does, make apology and some amends by pleading that he did not 'go for to do it', but was persuaded thereto much later. That is not enough unless he has done full justice to them and their land, and only those who live there can decide whether that has been done or not.

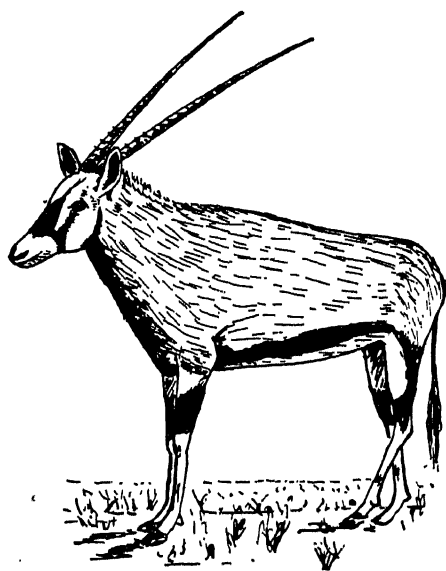
He can, and does, render thanks to those who sanctioned the visits, who guided them and who gave unstinted help and even friendship—from Sir Evelyn Baring, the High Commissioner, all the way down to John Makoweno, my Bechuana driver. But how to thank a host of people and give credit by name where it is so richly due?

The only way is to ask my readers to believe that, though I may have been the writer, the last link in the chain that brings *Kalahari Sand* to their fireside, the real origin is in that host of people whom I met and sojourned with in those pleasant journeyings of three thousand miles.

If indeed the book gives a true picture of that remote and far-flung landscape it is only what I was shown by Dr E. J. Wayland, the Director of the Geological Survey. For such understanding of the native tribes as this book contains you must thank Mr Laurenson of Maun and Mr Matthews of Kanye, District Commissioners of long experience and infinite patience, as well as Mr Riley of Maun. If I have succeeded in conveying something of the pioneer spirit of courage and kindliness and co-operation it is because I absorbed it from meeting people like Mrs Laurenson, Mrs Riley, and Mrs Bennett of Maun, who have worked with their husbands to create that spirit. Finally, for the character of the real and original inhabitants as sketched by me you must be grateful to a number of Africans, ranging from my friend Tshekedi

Khama down to Corporal Kolobeng of the Camel Patrol at Tsane.

The sole privilege of such a writer-by-proxy as I am is that he can claim his opinions on the country as his own, right or wrong, and can acquit his friends of all the shortcomings in his story.



*Gemsbok*



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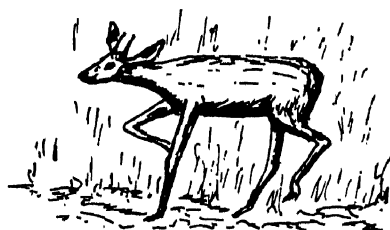


*Baboon*

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*Stembok*

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## CHAPTER I

### *First Impressions*

‘**W**HAT a gorgeous house that is up on the hill there,’ said my companion as we steamed out of Lobatsi on a day in 1945, *en route* for Northern Rhodesia from Capetown.

I turned to look at the dark red roofs and white Dutch gables, so imposing after the pioneer, utility style of the stores and hotel of the little township we had just left. It was a South African equivalent of the House Beautiful of *Pilgrim’s Progress*, and I said, ‘It must be Government House. What a pity we haven’t got a job to do in Bechuanaland Protectorate, if that’s the standard here.’

I was quite, quite wrong, and mine was a good instance of the abysmal ignorance of nearly everyone who travels from the Cape to Rhodesia. Many such travellers would even deny that they had ever been in the Protectorate, though their train has traversed some 400 miles of it. It was certainly unpardonable in a Professor of Geography, who should at least have known that the centre of government is not in the Territory at all, but in Mafeking, twenty miles outside it, and that the head of the administration is not ‘His Excellency the Governor’, but ‘His Honour the Resident Commissioner’. It was, therefore,

bare poetic justice that I should be forced to spend ten days at that very house on the hill only three months later, not as a guest of the Governor indeed, but as a very sorry tick-typhus patient in the excellent little hospital that it really is.

Meanwhile, blissfully ignorant of what lay ahead, we travellers continued to revel in the scenery of this vast strange land, gaily misinterpreting what we saw but finding fascination in it all.

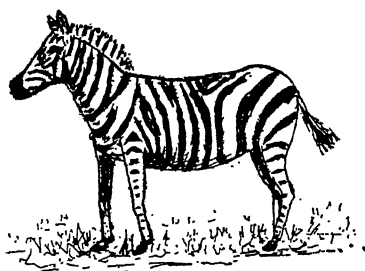
Rumbling along for another fifty miles through high rocky hills and across sand-filled *nullahs*, we came to a very neat station called Gaberones—which should be spelt with an apostrophe since it is named after a chief Gaberone of sixty years ago. Opposite the low railway platform was an equally neat hotel-cum-store, and beside it there was actually a gaudy red petrol pump. Of any further Gaberones there was no sign at all—nothing but a vague dirt road leading somewhere through the thorn-bushes and dry grass of that November season.

How were we, or anyone else, to know that down that road was the real township, with a whole dozen Europeans living there, a police headquarters complete with gaol and horse-lines, a *boma* or district headquarters, very fine with Union Jack on flagstaff and, most impressive of all, a series of workshops of the Public Works Department which would do credit to any African territory? Or that just beyond the settlement the Notwani River ran, for part of the year at all events, the haunt of millions of tiny ticks no larger than a pin's head, waiting on the grass-stems for an unsuspecting English traveller, who would not be aware that if not carefully removed from his person after every walk they could be a source of typhus?

Yet in the distance, coming up that road, we did see a European officer of the Bechuanaland Protectorate Police, in his neat khaki uniform and turned-up felt hat with red band and feathers. We did not yet know that the B.P.P. has in its small way the same standards as the famous 'Mounties' of Canada. They too always 'get their man', and have played their part in the uneasy story of this land of tribal wars.

As we steamed north we left the pleasant rocky *kopjes*, haunts of baboons which we saw, and their invariable adjuncts,

leopards—which we saw not—and came to the first signs of ‘desert’, in the form of long low ridges of sand. These were obviously fossil sand-dunes, firmly fixed by centuries of the vegetation which now clothed their sides. The scenery was strongly reminiscent of another long railway journey, across the Nullarbor Desert of Western Australia, where at the



*‘plump little zebra’*

eastern end one sees similar fixed sand-dunes and an even greater scarcity of people. There was, it is true, a thrilling difference from the Australian scene in the knowledge that here there were lions and leopards, ungainly giraffe and plump little zebra, dangerous buffalo and touchy rhino, and even the lordly elephant. As further reminder of Australia, we shortly came to a station called Artesia. Here the train was met by an odd dozen of Bechuana railway hands, who fastened great hoses to pipes alongside the train and filled every receptacle in every carriage with water, for our comfort over the next 300 miles. A gaunt, dry place, Artesia, and no wonder there was but a single European house and a collection of native hutments near the tall Australian eucalyptus trees, which alone pick out the settlement from the surrounding yellow sand and low scrub.

My companion and I viewed all these things with intense interest, but, not being journalists, we did not seek out other people on the train to ask questions about the country we were passing through. This was foolish of us, but for my part it may have been the legacy of my youth in Australia, where strangers who ask too many questions are told, not lies, but pretty good imitations of them.

In self-defence I must add that as we crossed these sandy

areas, so monotonous to the ordinary traveller, I recalled with reasonable accuracy the broad geographical facts concerning this vast land. I knew, for instance, that the Bechuanaland Protectorate was the largest and poorest of the three British protectorates in Southern Africa administered by a High Commissioner, then the Hon. Sir Evelyn Baring. Vast indeed it is, since it would comfortably contain six Englands, and sparsely peopled indeed, since its total population is only that of the city of Nottingham. I remembered, too, when jogged by the insistent questions of my companion, that the greater part of this huge territory was labelled the Kalahari Desert, but that even Livingstone, earliest of white travellers into it, had said that it was not all a desert, nor always a desert. What we were seeing from the train might perhaps be called 'Once-a-desert', but nothing worse than that. There were the ancient sand-dunes to suggest it, but nothing else; and the occasional glimpses of placid cattle and the few contented-looking Bechuana people in their rare villages certified it all as perhaps marginal country but certainly not desert. Still, there was an awful lot of the Protectorate to the west—400 miles of it, in fact, to the border of South-West Africa and then another 300 miles to the South Atlantic, all of it without a single river, and ending at the seashore in as utter a desert as the worst of the Sahara. We were told that even had we the opportunity we would not be allowed to go westward unless we had two lorries and plenty of drums for water and petrol, and a better reason than mere curiosity for asking permission.

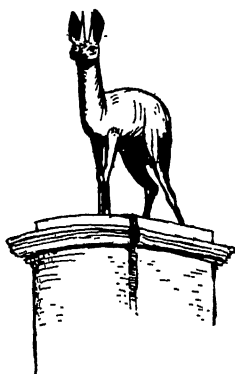
By late evening we had reached the most impressive settlement since Lobatsi, named Palapye Road, which had sidings and several stores with a hotel and even electric light in most of the dozen or so European houses. The name stirred my memory to recall the happenings of 1933, for surely it was only thirty miles to the west that there lay the really large native town of Serowe, with no less than 30,000 inhabitants—one-tenth of the whole population of the Protectorate. Wasn't there a young Chief-Regent there then, Tshekedi, who had caused a great stir in the Press by sentencing a ne'er-do-well European in his native court, thereby bringing down upon himself the might of the British Navy, detachments with



artillery rushing up from Capetown to deal with this arrogant chief of the Bamangwato?

It may be recalled that there were two sides to the case, that Chief Tshekedi was certainly not arrogant, but rather was helpful, even to the point of sending many trek-oxen to Palapye to pull the naval guns over the bad road to his capital, and that on the whole, in spite of a nominal punishment, this clever, smiling young man had carried off what honours could be said to accrue to anyone in an over-publicised incident.

We agreed that it was a great pity we could not see this intelligent Chief-Regent and his capital, the largest native town south of the Equator, and see where Admiral Evans'



*Duiker memorial  
on Khama's grave*

punitive guns were greeted with cheers by the whole populace, all dressed up for the occasion of their own punishment, in a large space below the hill on the summit of which rest the remains of Tshekedi's ancestors. There too is the statue of a duiker, the tribal antelope, overlooking the grave of the Grand Old Man of the Bamangwato, Chief Khama, who visited Queen Victoria to beg for her protection. That protection was granted and continues to this day, and most visitors breathe a heartfelt 'May it continue in perpetuity.'

As darkness fell the two travellers went soberly to bed in their train berths, regretting only that they could not continue to gaze out over the miles of thin bush towards this magic Kalahari, already beginning to cast its spell.

The spell was woven more closely still a little while later when there came into my hands the official map of 'the B. P.', as it is usually called out there. For so large a territory the scale has to be small, about twenty miles to the inch, but even so the names are few and far between. Now there is a magic in place-names which is not confined to Africa and which operates on schoolboys of every age. When names that trip off the tongue denote places in the back of beyond their charm is reinforced; when, too, there are little descriptions in brackets such as '(Bad water)', '(Large marula tree)', or '(Salt-pan)', they are irresistible. Some of these names appear with all their beckoning appeal on the maps in this book—such as Shushong, Makalamabedi, Molepolole and, perhaps best of all, Lehututu. What matters it that these may be only solitary police-posts, or the crossing of a dry river, or moderate-sized native villages? The urge to visit them is just as strong.

That this is not just a fancy of professors of geography may be made clear forthwith. At that first keen study of this map my attention was naturally focused on the name Lehututu, far out in the middle of the Kalahari with a few pecked lines denoting a route, but not a road, and I thereupon vowed that I would get there somehow some day. The day seemed not far off when, a few months later, the not inconsiderable journey there by lorry was fully planned, even down to the last gallon of water required. Fate stepped in in the form of the aforesaid ticks and I found myself in hospital instead, next door to a District Commissioner of the Territory. To my delight, he had been to Lehututu; but when he described it as only a small store and a large salt-pan, I asked him why he went there, and his instant reply was, 'I liked the sound of the name.' This story repeated itself, when five years later, after I had succeeded in reaching Lehututu, I chanced to sit next to Sir Evelyn Baring at a dinner in London and, chatting over his many journeyings in the Protectorate, I asked him if he had been to Lehututu. Again came an instant reply, but this time it was, 'No, unfortunately; I have always wanted to go to a place with such a name.'

It is now time to explain how it was that I finally got to the Kalahari of my dreams, and found it even better than the

dreams themselves. I had been travelling about the two Rhodesias and Nyasaland on a general investigation for the Colonial Office into the water resources of Central Africa. In those interesting territories there is a part of the rainy season when it is as well not to attempt travelling, for the roads become a danger to one's transport and the mosquito runs riot everywhere instead of only in marshy places. Consequently, there was a space of nearly three months in which one either had to stay tamely in some centre such as Salisbury or had to seek a place where the rainy season was a benefit to the traveller rather than a hindrance. It was, therefore, timely indeed, and little short of an act of Providence, that an invitation should come from the High Commissioner to visit B. P. to confer with the local water experts on its slender water resources. We gladly hied ourselves down the railway-line again, being bidden to report to the Resident Commissioner at Mafeking.

I do not propose to trouble the reader with the day-to-day doings of the next eight weeks, though they did confirm and amplify the impressions of that first railway journey north. Having presented myself at Mafeking and met the pleasant people whose work, to their regret, tends to keep them there rather than roaming the Protectorate itself, and marvelling how a large territory could be run from a headquarters twenty miles outside it, I was met by the eminent geologist who was deputed to be our guide, philosopher and friend in whatever, within reason, I wanted to do. Fortunately, he too was a schoolboy at heart, so our planning was rapid and fruitful and, of course, included Lehututu.

He had brought his transport from his own headquarters, no less a place than Gaberones—a hundred miles away. This transport at once attracted our attention and soon won our affection, and in spite of its extraordinary contrast with the ox-wagon of early days it was to prove to be just as much a travelling home. The administrators of B. P. have completely solved the problem of transport over sandy wastes which are without water for scores of miles yet clothed in places with thornbush impenetrable by anything less tough than a rhino. Their lorries, all fitted out at the workshops at Gaberones, are locally called *cabooses*. They are rarely less than five-tonners

and are, if possible, six-wheelers, with as many speeds as the makers can supply. On the front half behind the cab the caboose or cabin is built, which can be a travelling laboratory, or a two-bedded room, or merely a receptacle for the traveller's junk and those stores which must be kept from too much dust—or, just occasionally, from a wetting. One rarely



*Kalahari Caboose*

sleeps in them, it being much pleasanter to sleep under mosquito-netting on a stretcher raised just beyond insect reach, and perhaps snake reach, above the ground. The rear half of the long body takes the forty-four-gallon drums of water and petrol, as well as the native boys, who are essential to all camping in Africa. Often this rear section has a strong wire netting stretched over it, which serves the double purpose of keeping the branches of thorny trees from scraping off luckless boys when travelling and also, at need, of keeping off too inquisitive lions. As a matter of fact, the white inhabitants of B. P. have the greatest scorn for lions, paying little attention to them and certainly not seeking the shelter of wire netting unless a man-eater is reported in the vicinity.

The most important part of the caboose is a stout fender, or super-bumper, of steel. Armed with this and sufficient power behind it, the lorry can go through almost any thornbush that grows in B. P. and push over any sapling up to three inches

in diameter. This process is known as 'bush-bashing', and is the normal means of travel over much of the territory. To the newcomer it is a method full of excitements, since each bush as it is bashed by the fender jerks its load of insects and spare leaves and thorns into the cab, covering the occupants with interesting things like great bronze spiders with a three-inch spread of leg, brown stick insects, praying mantises of glorious green, not to mention caterpillars in every degree of colour and hairiness. We once counted twenty-two varieties of insects in one shower, and most of them were still pretty lively.

And so we set off with our friendly geologist and our native 'boys' in our elephantine cabooses, and soon fell into the routine of present-day travel in the Kalahari, strangely similar to that of the days of the ox-wagon though many times as rapid.

Every day had its high spots and on some there were low spots; sticking in the heavy sand, for instance, or an especial plague of flies, or too much curry powder in one of the savoury messes which Table, our Nyasaland cook, produced for supper. For some reason, most cooks are characters, all over the world,



*Table,  
the Nyasaland cook*

each with his or her own appropriate adjective, good, bad, touchy, melancholy, even mad, as the case may be. Table was no exception, and his adjective was 'verbose', for he was a chronic chatterbox. As every second sentence seemed to include the name 'Blantyre', we presumed that most of his oratory was about his birthplace in Nyasaland. What one's

'boys' talk about in Africa is, of course, no one's business, least of all when the subject is oneself, but we did gather from our geologist, who could interpret, that we had acquired merit in Table's eyes from having been in Blantyre.

One invariable joy was that of waking just as dawn was fading out the stars and spreading a rosy flush over the cloudless sky. What caused the waking was perhaps the low, musical voices of the boys round their fire on the outskirts of the camp as they made it up. Even more pleasant noises crept on the ears—the distant call of birds, the chirruping of some small cricket or the zooming of the great scarab-beetles, the sanitary squad of Africa, scenting work to be done. There is a keen sense of life awakening all round, the changing of the guard, all the beasties of the night handing over to those of day just beginning. One may even glimpse the first awkward flight from its roost of that gawky bush-comedian, the hornbill, or see on the nearest tree-top the outraged pose of the grey lourie, erecting its crest with annoyance and shouting 'Go 'way' in a tone which always reminded me of the same words shouted at me by a master in my schooldays. These quaint sounds, these novel sights of a strange land, rouse the keenest expectation, and put all perception on the alert, while the pleasant acrid smell of wood-smoke in the background awakes the pioneer instincts in all but the most stolid of city-dwellers. But the start is always made at sun-up, a tradition in the Kalahari, so there is little time for communing with Nature or for further musing than the thought, 'This is the Kalahari, we must not miss a moment of it.'

One has hardly begun shaving, with mirror balanced on a radiator, before the boys are rolling up the mosquito nets and packing camp beds, chairs and tables on the lorries. Table, still murmuring impossible eulogies of 'Blantyre', is collecting his pots and pans, his bald head catching what light it can from the pale sky, for he does not don his pork-pie felt hat, from Johannesburg, till we start. John and Shadrach, the drivers, are warming up their engines or seeing to their gauges and chatting in their soft Sechuana dialect. A pot of tea is set on one of the running-boards and we each have a cup without ceremony before we start. The last thing to be done is to throw sand over the fires, a duty which must never be

omitted in a land where everything is tinder-dry for most of the year.

‘Who heard the lion last night?’

‘That wasn’t a lion—it was an ostrich.’

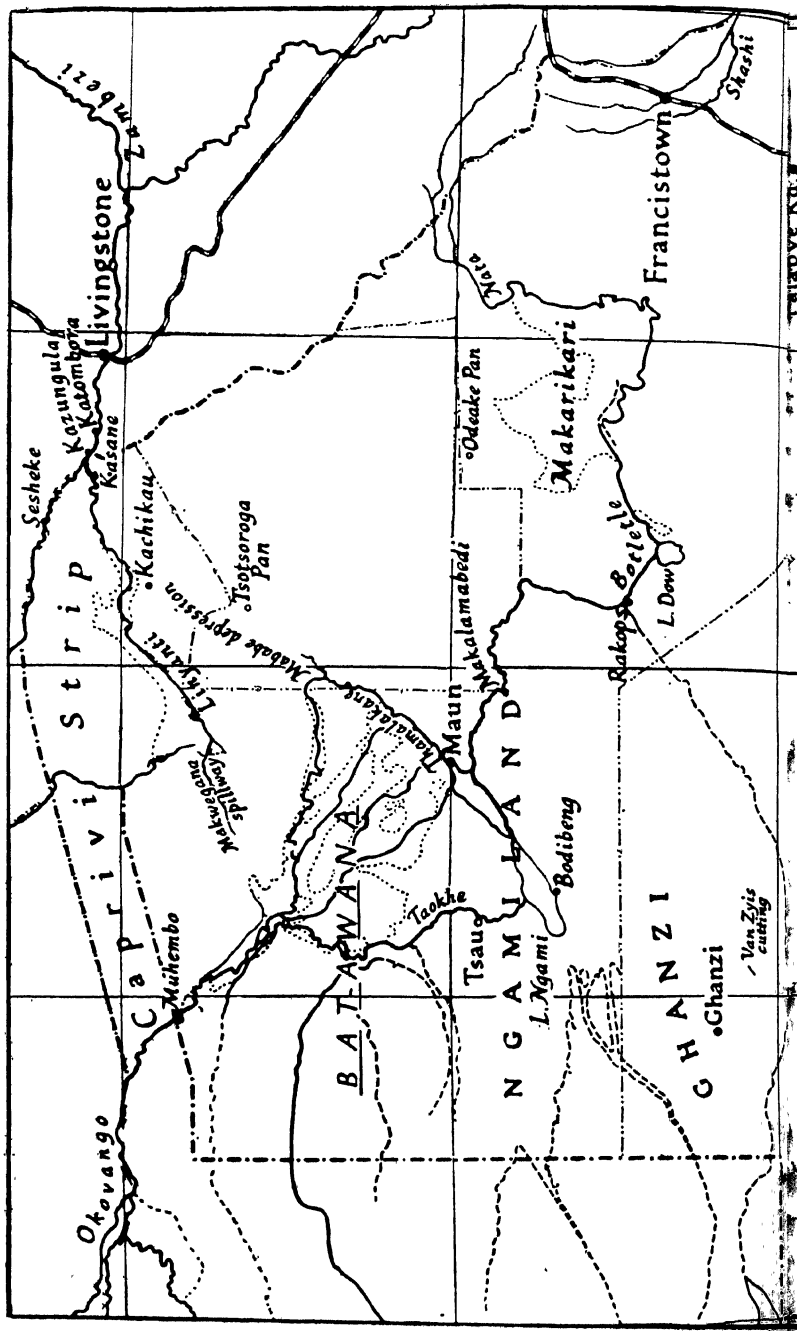
‘Well, I don’t think it was either. It was probably Table snoring.’

And so off into the blue—sometimes along a track, sometimes creating one of our own; now bashing a way through thorn and thicket, now getting into second gear and doing perhaps 8 m.p.h. over grassy flats with a far-spread horizon.

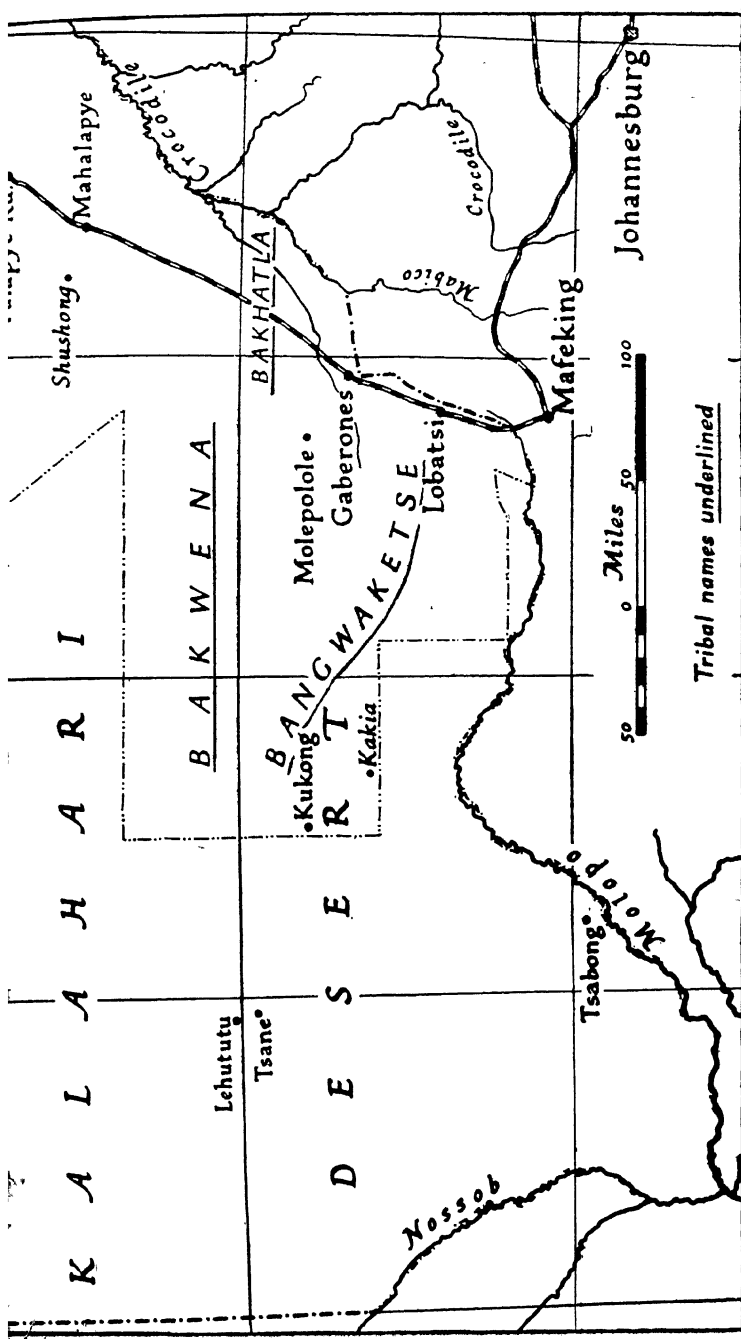
For me there was always the absorbing duty and pleasure of making a compass traverse. This is rather a fad of mine, for I am like that mythical Australian bird, the burraburrulooloo, who always flies backwards because he does not care where he is going, but likes to see where he has been. The job is easier than it sounds, since the speedometer gives the distance, and one can always find some place in the cab where the compass, though obviously in error from the iron all round, has at least a consistent error. The only difficulty is that of writing legibly, a very real one in low gear over tussocky grass. Some 2,000 miles of the Kalahari has been so mapped by me, and the only boring part is the plotting from field-notes. Possibly this ceaseless mapping fills the mind with details when at times one should be seeking a broader view, but it teaches close observation and helps, in my case, a memory none too good.

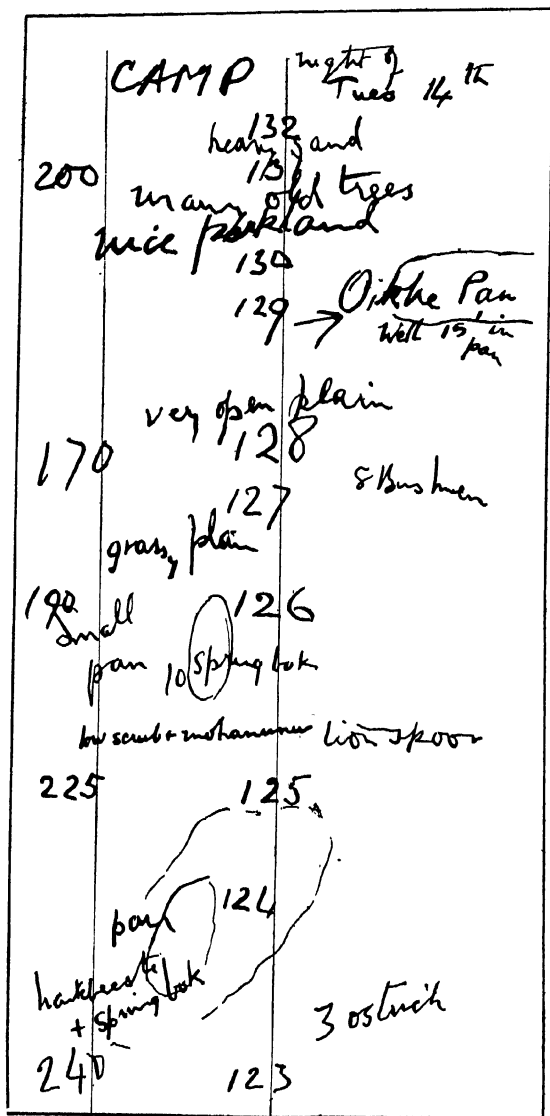
As the sun rose higher the increasing temperature and the glare could be trying. Our guide had a gay way of saying that we would cover a good distance before breakfast and of then forgetting both distance and time. As his caboose was usually in the lead, there were one or two unlucky days when we did not succeed in catching him till early afternoon in order to suggest a meal, to which he would answer, ‘God bless my soul! I don’t think we’ve had breakfast yet. Let’s look for a shady tree.’ Even then the shady tree could easily be many miles further on.

Fortified by the breakfast-lunch, we usually found the afternoon better travelling, and at least an hour before sundown the leading caboose would make frequent halts to inspect a likely camp-site. You would think that this would be easily found, but the boys insisted on a place where the firewood was









A page of the traverse book

of the brightly-burning kind, our geologist insisted on trees round the camp, while the lorries preferred a place in not too deep sand. They were all one to us visitors, but it took some time to find the highest common denominator.

Camping anywhere in Africa is a simple matter for the white man. If he is in Australia or Canada, or even in England, he has to pitch his tent himself, cut his firewood and cook his meal; in Africa these things are done by the boys, and, after a little training, are done to perfection. The cabooses would be drawn up at an angle to each other, the tarpaulin laid in the angle, and the chairs and tables set on it. The floorcloth represents an attempt to limit the number of insects intent on exploration of bare legs during the meal. Cords strung from one lorry to the other carry the mosquito-nets, set over the camp-beds, which are put up at the edge of the floorcloth. While this is being done there is time to wander off into the bush to view it more closely for half an hour or so.

It is as well, however, to choose for this walk a direction back along the route rather than forward, so that you cannot get lost. There are enough trees or tall bushes soon to hide the lorries and camp-fires and you are only too apt to lose your sense of direction while following the 'spoor' of animals on the revealing sand or stalking small animals or birds. The grasses are perhaps less interesting, but between the tussocks there is a whole world of insect life which appeals to the newcomer who is not forced to live with it. A rare open space may show a 'pan' or basin, and if there happens to be water in it there are waterfowl of all kinds and a general convergence of all animal spoor. The heat of the day is over, the night breeze is rising, and the graceful profiles of the dominant camelthorn trees give a truly African character to the scene.

You should not get lost, of course, because you have two ways of finding your way home while the light holds. One is to back-track your own footsteps, or 'spoor', which is rather tedious and needs a good light. The other is to take a short cut towards the tracks of the lorries, having judged the direction of the sunset when setting out. Even so, we occasionally had a few moments of slight dismay when the camp-fires did not appear where our memory said they should be.

The first sortie of about ten days into the wilds included a

visit to Molepolole, a large but dreary-looking collection of native huts with a District Commissioner's house on the hill overlooking it. Most African native towns, as opposed to small villages, are inevitably dreary and bare because the hunt for firewood entails the cutting down of every tree for miles round. It was near here that Dr Livingstone persuaded his friend Sechele, the chief of the 'Bakwains' (the Bakwena tribe, whose totem is the crocodile), to move all his people and learn to irrigate his crop from the small spring (*kolobeng*) and thus be independent of the droughts which his people said were caused by the missionary. There was certainly strong medicine working against Livingstone in his early days as a missionary, for drought followed his footsteps wherever he moved. Though the spring gave them good crops for one year it dried up the next, and once more the voices of the rain-doctors proclaimed that the missionary was responsible.

Another journey was up the main road alongside the railway to Palapye, and thence through Serowe to a vast sand-river passing through a veritable gorge 200 feet deep. This Kuchwi gorge had recently been in full flood and the sand, now merely damp, bore the spoor of almost every animal known to Bechuanaland except elephant. As we wandered for a mile up it we tried our prentice hand at 'spooring', and with a little tuition began to see where the duiker was fleeing from danger and where he stood at gaze. The lion's pads were unmistakable where he must have been stalking arrogantly across the tell-tale sand and where he had flicked deep troughs in it as he sprang up the rocky bank. We also watched the small 'dassies' (rock rabbits to us and hyrax to scientists, distant relations of the rhinoceros of all things) climbing about the rocks high above us. The camp that night should have been exciting, but the large fires carefully built up by the boys unfortunately kept the game at a distance.

A few miles to the south of this Kuchwi Pass lies Shushong, the original capital of the Bamangwato tribe where Sekhomi ruled in Livingstone's day and after him Khama. It nestled near a spring surrounded by rocky hills and was almost impregnable, as the Matabele under Moselikatse and Lobengula found to their cost. When the tribe increased beyond the resources of the spring, Khama moved them first to Palapye

and then later to Serowe, to get them further away from the white man's route to the north.

Meanwhile the germs planted by the ticks of Gaberones were multiplying in my vile body, and I remember but little of the last day of our return to that place. There is a vivid memory, however, of my companion knocking up the storekeeper by the station on Sunday afternoon to get a bottle of castor-oil for me. Being strongly, even violently, allergic to castor-oil, I expect I reacted in such a way as to suggest a clinical thermometer first, which soon showed that it was not too much of Table's curries that was at the root of the trouble.

The next three weeks contained many impressions, but they were chiefly of kindly nurses and a skilful though stone-deaf doctor, and they have little to do with the Kalahari. By the time I was fit for more travel it was too late to do the long trek round by Lehututu, but we managed to get in another 900 miles by caboose, this time up to Francistown and right across the Kalahari to Maun, the district centre of the Okavango Swamps. This was along the W.N.L.A. track to the north of the Great Makarikari Salt-pan.

Those initials stand for the Witwatersrand Native Labour Association, and 'Wenla', as it is usually called, has indirectly been of considerable service to the communications in the north of the Protectorate. As can be guessed by the title, it is a rich and powerful organisation, run by the gold-mining companies of the Rand, which has agents in the surrounding territories inviting native labour to go to the mines. Once engaged, a man is treated well, and transported in a gang by canoe or lorry and then by train to Johannesburg. When his time is up he is brought back again. For the labour from Angola (Portuguese West Africa) a truck service must be run across the Kalahari, one convoy a week in the dry season, and this requires depots of food, petrol, and water and some attention to the track; it cannot really be called a road, since an ordinary car cannot manage the heavy sand in many places.

During the late war there was a mobile column in Egypt known as the Desert Long Range Column. Under the guidance of Brigadier Bagnold and others, this force achieved marvels of travel over sheer sand by a variety of mechanical

dodges. Balloon tyres, great engine-power, occasional track laying with wire-netting, and condensers for radiator water were a few of these, and they are all now applied to Kalahari travel.

The action of a balloon tyre passing over dry sand is curious. The great weight of the lorry makes the wheel sink into the sand by pressing the sand out in all directions as a small wave, the grains gliding over each other with considerable friction. This means that the wheel raises a ridge of sand not only at the side, but also immediately to the front, which, of course, has to be pushed by the wheel as it moves forward. The sand passed over by the wheel is slightly compressed by the weight and is, therefore, harder. So the steering wheels of the lorry are really pushing the sand ahead and aside and giving a slightly better grip to the driving wheels, providing the course is dead straight. But that is just what, in really heavy sand, is almost impossible. Slightly harder or softer patches cause a wheel-wobble, however strong in the arm the driver may be, and the rear wheels then have to do some of their own pushing of sand. In such places the only thing for the driver to do is to keep moving at all costs and hope that his wheels and steering gear will stand up to it. He and his cab passengers are thrown from side to side and up and down as on a bucking horse, so that the mere hanging on to something firm is difficult and very tiring. You need to be a good sailor to navigate Kalahari tracks without being seasick.

There are two ways of avoiding this shatteringly violent wobble. One, which is just possible in a lightly loaded lorry, is to go so fast at the bad part, up to 10 m.p.h., that the wheels simply have not time to follow the zigzag tracks and they act rather as corrugations, shaking one's teeth out, but not throwing one too violently sideways. The other way is to have eight speeds on the lorry and go so slowly, say 1 or 2 m.p.h., that the zigzag is ironed out rather straighter by the pressure coming more slowly, giving the sand time to slide. This explains why the authorities will not allow a lorry to cross the Kalahari alone; it must have another with it, especially if they are four-wheelers, because it is so easy to get hopelessly, irretrievably stuck just in sand. It is also fatal to leave the track made by former lorries; our worst 'sticks' were at camps where we had

pulled off the track and had great difficulty in getting back on to it next morning.

It explains, too, why the strongest lorry must always lead the convoy to 'spoor' for the rest. After a convoy has passed the road is quite good—until a wind rises and blows the little sand-ridges back into the tracks again. Naturally, the leading lorry, having the heavy work, is slower than the rest, so a convoy is usually bunched together. If you are in the front lorry you see all the game first and have no dust in your eyes; if you are in any of the rear lorries you not only miss the game, but, unless you are very firm with your driver, who is accustomed to dust, you will see little but the heaving rear of the lorry in front. On the other hand, it is the front lorry which collects all the thorns and insects brushed off the bushes beside the track.

In the rainy season there is another hazard in lorry travelling. The ordinary heavy sand is harder when wet, as one would expect from walking along sea beaches, and the going is good until you reach a pan or low place. It may not look boggy, as the surface sand is often dry, but underneath such surfaces the water has collected, held up by fine humus, or 'black cotton soil', as it is called. Once you go through the crust you may as well set up your camp there for a week or so, until the whole pan has dried up. Only once did we find such a place, the front six-wheeler being down to its axles in a black slough below the sandy topsoil. However, we had brought a lorry with a power take-off and horizontal winch, that lorry being always last in the line. This was brought up very gingerly towards the wreck and carefully strutted with steel bars. The heavy cable was attached to the rear of the victim. It was a very efficient operation, and slowly the great six-wheeled caboose was pulled backwards along its own track to safety. Without that winch we should have stayed on that pan for many days, though we had crossed it safely enough two days earlier, just before a series of thunderstorms had done all the damage.

In Kalahari travel, therefore, one has to choose between the devil and the deep sea. The devil is the dry season, when you may run out of water, but can at least cope with the dry sand. The deep sea is the wet season, when you will be safe

for water, but in some danger from sticking in a wet pan until it dries up again.

We all have a vivid memory of Lake Ngami for that reason. When Dr Livingstone discovered Lake Ngami in 1849, it was about 30 miles long by 12 wide, with shallow water. It is now a wide grassy plain of black soil, where the Damara people keep a large number of cattle and some sheep.

We had stopped at a village to buy a sheep, our officer in charge of stores fuming at the delay in catching it because a big thunderstorm was brewing and we had some miles of that black soil to cross. The track was a dim one through the grass but nice and hard as the first heavy drops came down, and the only thing was to get every ounce of speed those huge lorries could command. The drivers rose to the occasion and in spite of rain so heavy that visibility was down to a bare 20 yards at times we were bumping and slithering across that plain at well over 30 m.p.h., terrifying the game, and ourselves. Some ostriches thought it was a race, and their naked flying legs accompanied us for a few hundred yards, dimly seen through the squalls only the length of a cricket pitch away. We made it by about ten minutes, it was judged, the lorries just beginning to plough instead of slither over the last half-mile before a sharp little rise took us up on to safe sand. We camped at once to tend our bruises and dry our clothes, a procedure somewhat hindered in my own case by a hole under my particular patch, from which at intervals three puff adders joined me to dry themselves.

These hindrances to modern travel are, however, so minor compared with those of the ox-wagon days that one feels ashamed of mentioning them. You cannot really get into a dangerous situation nowadays unless you are foolish, as you should be able to carry enough food and water on your lorry for almost any eventuality. In the early days, on the other hand, however wise you were you had no means of telling whether there was water in the next pan for your oxen, and it was very easy to go on a little too far from the last water to get your oxen back again if the next hole were dry. This risk is constantly described in early narratives of crossing the Kalahari by wagon, and even Livingstone had that experience more than once. How hardy a traveller he was is shown by a



quotation from him suggesting that he instantly forgot the danger: 'Wagon-travelling in Africa . . . is a prolonged system of picnicking, excellent for the health, and agreeable to those who are not over-fastidious about trifles, and who delight in being in the open air.' There are still a few ox-wagons to be seen in the B.P., but for the most part the only relics of those



*The ox-wagon days*

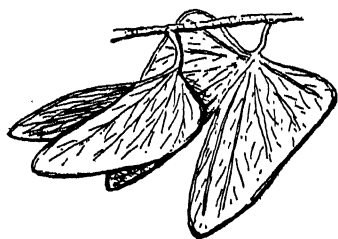
spacious days are an occasional hub or spoke half-embedded in the middle of a salt-pan, where that particular wheel had to be abandoned.

On that 1946 trip the last 300 miles was through a different type of country, also first explored by Livingstone. As the map shows, Maun is at the front of the curious delta—it is nothing less—formed by the Okavango River meeting the thirsty Kalahari. Westward from Maun there is a track leading to Lake Ngami, there forking south to the quaint settlement of Ghanzi and north to Muhembo, where the Okavango enters the territory. There is, too, a route north from Maun up to the Zambezi along the delta front, by which native cattle are taken to be swum across the great river at Kazungula to become beef for Northern Rhodesia.

The strict rule about cabooses always going in pairs had to be broken for once, for various reasons, and we found ourselves bound for the Zambezi quite unattended, myself and my companion with a native driver, Dick Muki, and a young 'handyman' boy named Dikutsi. Dick had never been that way before and no lorry had used the track for about six months

so there was some prospect of losing our way. To obviate that, we took a Bushman as a guide, and later we gathered in two petty chiefs who were glad of a lift for the 120 miles up to Kachikau. The Bushman wore the remnants of European clothes, so was not in the least picturesque; indeed, he spent much of the journey asleep in the back of the caboose, leaving our driver to find the spoor of last year's lorry. We shall see later that the Bushmen are by far the most interesting people of the Kalahari, perfect nomads and cheerful in spite of or because of their complete independence of almost all that civilised man regards as essential. We were also solemnly handed a .303 rifle and ten rounds in case we got stuck and had to shoot for the pot. We said goodbye to our tough geologist guide, with real regret at losing his gay company tempered with some relief at feeling we could now have meals when we were hungry.

The journey of 300 miles to the Victoria Falls should have taken us only three days, but in fact took seven. They were days packed with interest and even schoolboy glee. It was, for instance, a nice change to be travelling through forest, as one does along the Thamalakane River, a forest full of birds and monkeys. Then up out of the low valley of the river on to the sandy Kalahari here covered with *mopane* forest. This forest is the haunt of really big game, buffalo,



*Mopane leaf*

giraffe and elephant, and these and nearly every kind of large buck were to be seen in the Mababe Depression, once no doubt a vast lake, now a sea of scrub and grass.

The *mopane* tree has a very distinctive light green colour and its pendent leaves are like butterfly wings and give very little shade. Here it grows in sapling rather than tree-size,

and our first view of giraffe is a good instance of how you cannot see a thing unless you know just what you are looking for, an Irishism very applicable to big game hunting. Warned by Dick that there were giraffe near, we got out and stooped down to see under the leafage of the forest. We saw myriads of thin dark trunks of mopane saplings, but nary a giraffe, in spite of Dick's frenzied 'There, master, there, where I point.' After a long wait we at last saw four of the sapling trunks move stiffly away, and not till then did we recognise the dappled periscope high above the leafage as the head of a giraffe and not just a thickening of a tree-trunk.

After a day and a half we reached Tsotsoroga Pan, near to which Livingstone and his wife and children were narrowly saved from death by thirst; his Bushman guide having deserted many miles back. This pan or pool is very nearly perennial, a delightful little pond about 100 yards across, fringed with reeds and water-lilies, both yellow and mauve, while the mud at the side is roughened with every kind of animal spoor.

Apart from the difficulty of finding the old track, the only hindrances to travel here were distinctly peculiar, and of a type that never seems to get into travel-books—namely, spiders and grass-seeds, and they were the cause of our downfall.

At that season of the year, towards the end of the rains, there flourishes a giant spider, black with yellow markings, with a spread of leg up to three inches. He spins a glorious web of gold bronze and it is so coarse and strong that it takes a little effort to brush it down. The favoured place for these webs was across the old track where in places the grass at the side was eight or ten feet high and on the track itself a little lower. The view along these bits of track was quite misty with webs every two or three feet, and all of them were duly collected on the radiator and windscreen, not to mention the angry or injured spiders which found their way into the cab. We had to stop every mile or so to sweep the webs off the screen so that the driver could see.

The grass-seeds were a more insidious enemy and well known to lorry-drivers in the territory, who carry a sort of mosquito-wire frame in front of the radiator which catches some of the seeds and can be taken off and beaten every few miles. The combination of grass-seeds and sticky spider-webs

was too much for any device of this kind, and though we stopped frequently our radiator was boiling all the time for lack of draught.

The water-pump gave up the unequal contest just after leaving the Pan, and there we were, happily broken down in the loneliest part of the journey—happily because one could not choose a more pleasant place for an enforced stay, with plenty of water nearby and lots of game for the pot. Dick did not see it that way, however. He was a very serious man, weighed down with the responsibility, and till far into the night he was tinkering away at the fractured bits which the pump resolved itself into when dismantled. In the next six days the valiant Dick had that pump to pieces about twenty times, and he did everything to it that was humanly possible, tying it with wire, sealing it with soap, filing a new spindle out of a spare bolt, and so on. Nor was there any help by the way, and for the next five days we proceeded by hops of about a mile and a half at a time, that being the distance one fill of water would take us before it all leaked or boiled away. Our two petty chiefs, who were getting a cheap ride in the guise of guides, had said very little hitherto and were inclined to be haughty, even to showing signs of leaving us to walk on the remaining 50 miles to their villages; but with Dick as interpreter I managed to convince them that this was an occasion when even headmen had to pocket their dignity and help in fetching water from any pans we passed near, and so we came, trim enough though highly heated, into Kachikau, where there was actually a store. It was kept by a famous Kalahari character named 'Bush' Macintyre, who had been in those parts ever since he came from Australia for the Boer War. He pressed tea and eggs and bread on us and would take no payment, but broken water-pumps were beyond even his ingenuity, so on we hobbled. The only place of authority on that road is at Kasane, where I handed over my rifle, as instructed, to the one white man, a malaria-stricken policeman, and where Dick was warned by local Africans of the worst places for elephant on the road ahead. That was the cause of the only disharmony that occurred on the trip, for two nights later we had reached a pleasant site by five o'clock, after climbing a little above the Chobe River bank, favoured spot

of mosquitoes. I announced that we would camp there, but Dick strongly objected, saying it was the worst elephant place on the whole road; and there were indeed signs that he was right.

Fearing malaria more than elephant, I insisted, and the two boys built a ring of fires with plenty of spare wood. Fires attract elephants who are at war with humans, but if they are large enough fires then all should be well. At ten o'clock that night we heard a lorry coming. It stopped, of course, and it held the relief policeman for the fever patient at Kasane. He was very laconic, saying that Mafeking was getting worried at our non-arrival at Livingstone, that water-pumps were always a nuisance anyhow, and that we had better keep awake to keep the boys awake to keep the fires big—and off he throbbed into the darkness.

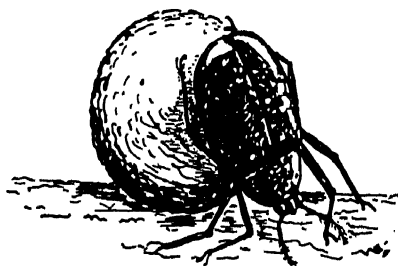
If we have dwelt at length on these minor incidents of a short journey it is because they lend emphasis to the first and perhaps the most lasting impression of Bechuanaland—namely, that travelling there is always interesting, often exciting, but rarely adventurous or dangerous. It is, however, no place for amateurs, and there is wisdom in the regulations forbidding lone cars or the idly curious to leave the railway zone.

From that first eight-week trip to the Protectorate another impression was that there could be few territories of such magnitude so quietly and efficiently ruled. If we do the curious sum of dividing the area of the country by the number of administrators we arrive at something like 30,000 square miles per District Commissioner, which also means an average of 30,000 persons under his charge.

Mere figures prove nothing, however, and it is the behaviour of the people that is so impressive—no slinking away from Europeans and no arrogance towards them either. An incident to show their ignorance of persecution of any kind comes to mind. While convalescing at the hotel at Gaberones, I spent much time on its cool veranda overlooking the yard between it and the store. At that time there was sugar rationing in B.P., and Mondays were queue-days. Men, women and children would turn up hours before the proper time and squat about the yard. When the time came they were supposed to form a queue, but they were slow about it

and the store assistant came out to get them in line. The line broke up almost as soon as formed, because there were so many jokes going on and so many friends wanted to be next to each other. At last the assistant came out of the store with a whip, which not only caused shrieks of laughter, but started a game of just dodging the whip or tempting the whipper to try. It was so like a family of children having a game with a mock-angry father that the queue was never really formed because everyone wanted to be within reach of the whip.

Similar instances will recur throughout this book, however, and we may sum up by saying that the result of that first visit was chiefly a great desire to see more of the country. Again Fortune was favourable, and four years later I found myself once more in the Protectorate, this time as head of a mission of inquiry into the prospects of large-scale ranching in the uninhabited parts of the Kalahari.



*Scarab rolling ball of cow dung*



Jack



Brian



Harry

## CHAPTER II

### *The Northern Marches*

IT all began in the lounge of a hotel in Umtali, that pretty little town nestling amongst the granite hills of Southern Rhodesia, since it was there that I first met a mercuric Scotsman who shall be called Alex. If you can imagine a Scot with all the burr of Ayrshire speech thick on his tongue, with the imagination of a Kipling Empire-builder and the motions of a drop of quicksilver, you have Alex. An important person, a gifted person, one who could combine the planning of large development schemes with more knowledge of the inside of a cow than is really polite, he had taken the trouble to chase me around three territories of Central Africa to make a proposition to me—nothing less than a request that I should act as chairman or titular head of a party being sent to the Kalahari for a reconnaissance concerning the growing of beef.

Since I had been treating some of his many previous telegrams with scant courtesy, ignorant both of his person and his purpose till that moment, I felt at a distinct disadvantage.

In fact, with true Sassenach obstinacy, I began by querying whether I was really the man he was after, having had little close acquaintance with cows for forty years past and only a passing acquaintance with the Kalahari.

Like a flash came the answer, 'And would ye be thinking I don't know my business? Would I be flying out from my work in England to find ye if I didn't want ye? And will ye explain this sentence in your wee book if you know so little about cows and Kalaharis.'

He had fished out from his attaché case a copy of a report I had written and there, underlined in most accusing red ink, was something I had written three years earlier to the effect that someone really ought to go and look at the Kalahari from the angle of cows and cow-punching.

With some Ayrshire equivalent of being hoist with my own petard, he went on to demolish each of my several demurrings, as to my age, degree of mobility and so on, while my mind moved like viscous treacle trying to keep up with this kilted, blue-eyed Napoleon of development.

Strange it is how a man, offered the very opening he has wished for, hangs back with foolish reluctance and minor objections before entering. Alex must have been furious with me, but he never showed it, and no doubt he saw from a glint in my eye at the word 'Kalahari' that I was merely sparring for time and showing hesitation for appearances' sake.

And so it was all arranged and in less than half an hour too, that I should take nominal charge of a party of three men, guided by an organiser, to roam over the Kalahari seeking information of all kinds pertaining to cows.

You will notice perhaps how easily one drops into the colloquial speech of the Western States of America whereby all bulls, steers, heifers, calves, etc., are lumped together as 'cows', controlled by cowboys on cow-ponies occupied in cow-punching: so much has Hopalong Cassidy affected our mother tongue.



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The scene now shifts to the other end of Southern Rhodesia two months later, when the assembly of the various component parts of the Mission was to take place at the hotel hard by the Victoria Falls of the Zambesi, the scene of many an important conference, mission, gathering, and even of royal visits in the past.

There is going to be another hotel in the vicinity, and before



its rival claims cloud the issue one should pay tribute to the authorities who not only established the original one and made it a suitable home for high counsels, but who have so little interfered with the original appearance of the Falls that one can still share the wonder of Livingstone when he first set eyes on this amazing spectacle of millions of tons of water hurtling into a zigzag of rocky gorges, whereby the broad Zambesi plunges from comparative placidity to roar and rack and confusion.

Apart from the road-and-railway bridge crossing the gorge just below the Falls there is nothing but a few paths and a certain tidiness in the landscape to show that millions of people have been there to gaze and be speechless. Perhaps the only thing that has been rendered the worse for all this visiting is the troupe of baboons, who have developed a cheekiness born of their close association with a superior civilisation. Most people who have seen Niagara and its industrial setting will, after wandering through the still primitive glades of the rain forest, peering into the spray clouds which occasionally allow a glimpse of the falling water but 100 feet across the chasm, sympathise with the ardent American who, as the story runs, took one look at the Victoria Falls and then walked back to the hotel to send the sad telegram to his friends at home—'Sell Niagara!'

It may well be that many of the conferences held at the Falls Hotel in the past have chosen it because of its attractions, both scenic and gastronomic, but in the case of the Kalahari Mission it can be truthfully said that it was because it is the nearest point of road and rail to the first objective, the northern marches of the Kalahari, which may be said to begin next door to the Falls, an expression which in Africa means within sixty miles or so.

It was well into the rainy season of 1950, in late January to be exact, that the skilful organisation of Alex and his juniors was gathering us together at this delightful rendezvous. I myself had little or no part in this planning, and I can say freely and without any smug self-laudation that, as will be seen, it was practically faultless throughout the journey of some 2,000 miles of the next two months.

Waiting for me at the hotel was the man whom I rather

suspect will be the dominant figure in this book. Just once or twice in a lifetime one meets a man whom one recognises instantly and instinctively as 'after one's own heart', as the phrase goes, and for whom one falls almost at the first handshake, and continues to fall even when one discovers differences of outlook. Such was the man whom I will call Van, whom you may think of as the First Lieutenant of Alex if you like, since that was his temporary status at the time, but for whom you will soon find other names, as I did. If I were the titular head of the Mission, it was Van who was the real head as far as organisation, planning and execution was concerned.

I had first met him a fortnight earlier in Salisbury, where we had discussed the general plan of operations. Having taken to him, as I said, at the first handshake at the aerodrome, I was pleased, but not surprised, to find that at a merry party of forty strangers that night he made instant friends and, indeed, admirers of all. Nor was it altogether a surprise to find that early next morning he was off by air to Mafeking to carry out the preliminaries we had arranged together, and indeed much more—even to making a dash into the Kalahari itself for a few days to see whether some of my plans were impossible or not. Van is certainly one of those people who never let grass grow under their feet, and in fact he hardly ever stays long enough in one place for the grass to notice that his feet are there. In other ways too he is a paradox. I believe that he is the only one of his large family of brothers and sisters not to go to a university, yet he was better read than any of us. Again, though he has led a wandering life, often a rough one, he was the tidiest of us all, and with so little baggage that it seemed to go into a small knapsack and suitcase. With fair hair and blue eyes, he looked all Nordic, yet he could summon at will the fire of the Latin races, the philosophy of the East and the endurance of the Boers of the Great Trek, from whom on one side he was descended.

In fact, he was the standard-bearer of this little band of men, and round him gathered first a retired professor, then a rugged man who had lived so long in Africa and with cows that he had forgotten all else, whom we shall call Brian, and finally an ex-cowboy, Jack, who was high in the world of beef and yet as quiet and shy and tongue-tied as if he had just ridden in

on his cow-pony and did not quite like the sophistication and glitter of the Falls Hotel. I could describe their features to you and you would be little wiser than if I described their hats. I should have to describe their eyes to give you their characters, and that is stretching the powers of my pen.

The blue eyes of Van, for instance, had a quality of dreaminess and idealism in them, but before you could fix those attributes they would be sparkling with practical common sense and then again in a flash they would be reflecting the danger, the pain and the horror which had been his constant companions during his captivity with the Japanese in Indonesia. Jack's eyes reflected his open-air life, but they had, too, that immobility at command that is known colloquially as a poker-face and which I for one would take to be the chief characteristic of that wonderful Virginian given to us by Owen Wister in a novel. Brian's eyes were those of the child and the specialist at one and the same time. He had lived so long more or less alone with his cows in Kenya that while possessing the most amazing perception about a cow's shape, contours and value he had lost the ability to focus the more normal things of everyday social life—books, pictures, women-folk. He was entirely happy with his simple outlook and was perfectly honest in declaring that plenty of beef, an evening tot of whisky, and healthy cows out in his paddocks were all he asked of life. To suggest other delights was merely to confuse him. He was perfectly sincere when, later, at a hotel in Johannesburg I drew his attention to a perfect picture of a little girl at a neighbouring table, with 'There, Brian, look at that little twelve-year-old. I know you don't care for women, but surely you'd say that she is a sight for sore eyes.'

There came the slow answer, 'Ye-es. I think I see what you mean, but I've seen heifers I liked better.'

Such single-mindedness was quite charming, and as he was teasing about it we all enjoyed it. Needless to say also, his unfathomable knowledge of his one idea, cows, was of tremendous benefit to the rest of us, who were apt to waste time talking of books, pictures, and charming little girls.

Thomas Carlyle would have made something of the party's headgear perhaps, but the full interpretation of a man from the hat he wears is a closed book to me. I would only say

that ours were at least very individual. Jack had a brand-new wide-brimmed felt, specially bought for the trip, he said, and treated with much solicitude. Only an ex-cowboy would buy a new hat to take into the Kalahari, where there is no one to see it, yet he was inseparable from it and rarely put it on without lovingly brushing it and shaping it to best please the giraffes and elephants and eland.

Brian's hat you could almost summon up from what has already been said. It was a yellow straw of great antiquity and of a style best described as 'Farmer Hayseed'. He would have said in defence of it that it was not meant to be looked at; it was to keep the sun off his head. And that is all it did, whether on the sands of the Kalahari or in the fashionable streets of Johannesburg.

Van rarely wore a hat at all, and his blond hair was all the protection he needed. He did have one, just occasionally fished out of that comprehensive knapsack for the purpose of greeting Prime Ministers and High Commissioners, and it was surprisingly enough of no character at all—just a small greenish felt; from which you can judge that no hat made could quite accommodate itself to and certainly could not symbolise that head.

The professor wore a wide-brimmed bush hat of dark brown which did somehow inform people that he was certainly not a professor. At all events it could only have been the hat he wore that convinced an important visitor that the wearer must be one of those famous white hunters to be met occasionally in Africa.

There was much else beside hats and heads under them for Van to assemble at Victoria Falls—the four lorries sent up all the way from Mafeking, of which two were cabooses of the pattern we have already described, the chief engineer, driver, mechanic, and general good fellow of the party, Harry, his assistant and twelve 'boys'. And there was Cecil, which shall be the name used for the man who, under Van, was our provider of comfort as far as reasonable, our liaison with the 'boys' and our best source of information in the Protectorate we were about to enter. He had been a technical officer on the animal husbandry side for many years and the more one dug information out of him the more one realised how shrewd

and experienced he was. Sparing of words was Cecil, like most of the pioneers of Africa, but not in the least impatient of the stranger, as they commonly are, and anxious only to see that the job was done with a maximum of harmony and a minimum of adventure.

Naturally the lorries had to be serviced after their 700-mile trek from Mafeking; there were stores and fuel to be loaded and a myriad last-minute details to be arranged, but finally we got off with a goodbye wave from Mrs Debenham, who continued to regard us as schoolboys off on a picnic—which was nearer the truth than you might think.

There is something about modern life, its intricacies and complexities, its social as well as its economic responsibilities, which makes a journey into comparative wilds a relief and a holiday. It may be called escapism, if one must use that unhappy word which is responsible for so much misunderstanding, provided it connotes the exchange of one sort of responsibility for another, because the wilds do not permit irresponsibility, and the very contrast of having to live on what one carries instead of going to a shop or turning on a tap is a reminder that one has only escaped from the embarrassments of one kind of existence to the shortages of another. Perhaps the real reason for the joy with which the members of any expedition hail the actual departure is that from that moment one has to adjust oneself to only a few people, all with a common interest, instead of to thousands of people, some only on the end of a telegraphic wire, but all liable to restrict and hem in one's actions and desires.

It was, at all events, with a sense of freedom that the mission of three men climbed into the spacious front of the leading caboose and disposed itself in a grouping which rarely changed for the next eight weeks. In the front seat were Harry, the driver, and Cecil, the local expert, while in the long seat behind I took up my position immediately behind Harry, where I could read the speedometer and have my compass set out on a little desk-board, a position which meant less disturbance from people getting in and out, but, on the other hand, meant getting in first after a halt and getting out last if one wished hurriedly to see something of importance. It was also the favourite corner for most of the things that entered the cab

hurriedly and unwillingly—thorns and insects from the shrubs we crashed through, dust and sand and, on occasion, rain. This long seat for the seniors was a foot higher than the driver's seat and permitted a view of all we passed, with a minimum of obstruction. The only impedimenta besides surveying instruments were rifles and water-bottles, slung behind us or in chocks close to our knees, a most admirable arrangement.

Van rarely joined us in this caboose, as he characteristically constituted himself the rearguard, usually in the last lorry of the convoy, where he saw none of the game and got all our dust, but could see whether all was well with the convoy ahead of him.

So off we went, taking the south-west road from the Falls Hotel, and in ten minutes were past the little aerodrome attached to the Falls and into the wilds, bearing away from the great Zambesi and seeking the sands of the northern Kalahari.

Yet whether you grow things on these sands or merely cut the timber already growing on this part, the Zambesi must be a central feature in the future economic picture hereabouts; so we will try to get a perspective of it before we go further afield.

The river must, of course, be for ever associated with David Livingstone. He first reached it in 1851, followed it to its source and beyond, and then turned back from the Atlantic coast to follow it down to the Indian Ocean—and all that with no other companions but his intractable Makololo ruffians. Livingstone broke out into one of his rare outbursts of excitement when he first saw it, and wrote: 'We saw it at the end of the dry season when the river is about at its lowest, and yet there was a breadth of from three hundred to six hundred yards of deep flowing water. Mr Oswell said he had never seen such a fine river, even in India.'

Of the many statues raised to Livingstone's memory the one at the western end of the Victorian Falls is the most aptly sited. There he stands for ever, twice as large as life, with his Bible and his stick, staring fixedly along this spray-filled gash in his beloved Africa and filling the little clearing in the forest with his presence. Even to the carefree tourists in the daytime

he is impressive, and dominates for a moment their amazement at the Falls. At night-time, for those who go down to see the moon rainbow in the spray at that end, it is the vast, brooding statue standing behind them that must be their abiding memory. And the message to be read from those fine-drawn features,

*The Statue of  
Livingstone at the  
Victoria Falls*



surmounted by the consular cap, as he stares in the darkness beyond rather than at the Falls, is the same as that which Livingstone proclaimed in most of the pages of his books, a message which can best be phrased in Rudyard Kipling's words from his Recessional Hymn:

'The tumult and the shouting dies,  
The Captains and the Kings depart,  
Still stands thine ancient sacrifice—  
An humble and a contrite heart.  
Lord God of Hosts, be with us yet—  
Lest we forget, lest we forget.'

'Lest we forget,' David Livingstone would say, 'lest we forget that kings and shoutings and even the wonder of the falls are trifles compared with Africa, its peoples, its curse of slavery; lest we forget our duty to Africa.' Or, in the words with which he concluded his address at Cambridge in 1857: 'I beg to direct your attention to Africa: I know that in a few years I shall be cut off in that country, which is now open; do not let it be shut again. . . . *I leave it with you!*'

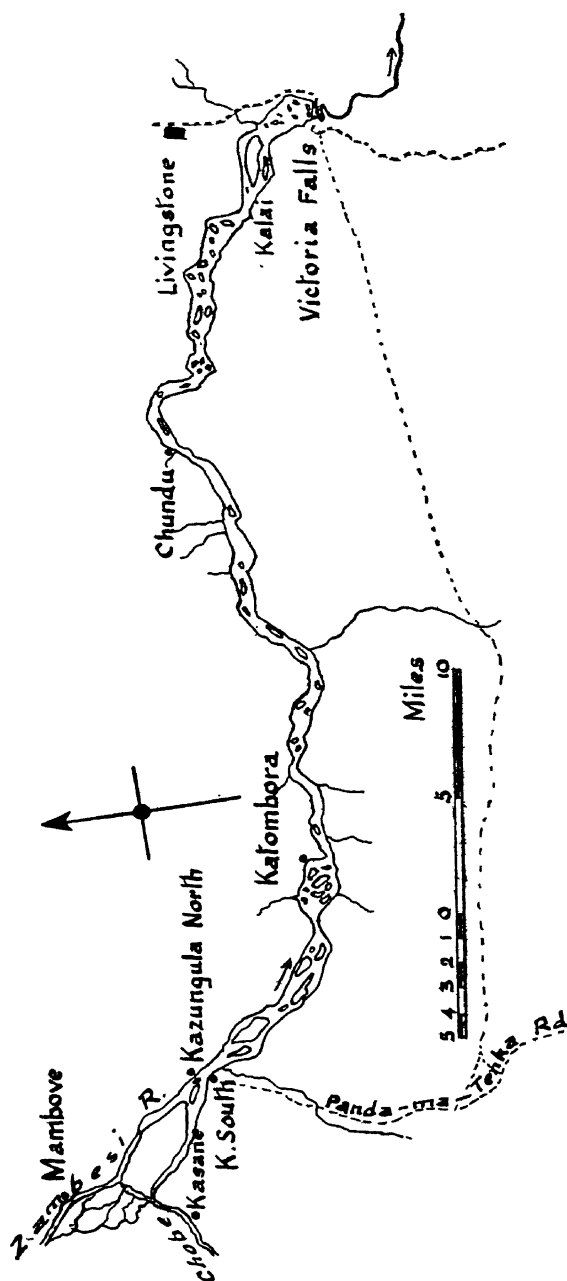
After seeing the Zambesi River rushing down its narrow gorge at the Falls and, in fact, falling 1000 feet in the first twenty miles, one is hardly prepared for the very flat and uninteresting country above the Falls. The river is flanked by two low ridges of black basalt, partially covered with grey Kalahari sand, but they include no hills worthy of the name, so that there are few viewpoints from the land. We can, however, appreciate the river from a boat for a good part of the first 150 miles upstream and assess its potential as an exit for Kalahari products.

Opposite the town of Livingstone itself there are broad and comparatively placid reaches of water, ample enough to provide a good landing basin for the largest flying-boats on one side of Long Island and a fine stretch of water on the other side for the activities of the enthusiastic local Rowing Club. Above that point, however, the river is not really navigable for some thirty miles on account of fast water until the Rapids of Katombora are passed. The river here rushes down a series of rapids on a very broad front between rocky islands with a total fall of thirty feet. It should be noted in passing that the rapids could provide up to 50,000 kilowatts of hydro-electric power at some time in the future if required.

But even an engineer, unless he were very hard-hearted, would hesitate to interfere with these charming islands, which look like a densely vegetated embankment across the river, full of wild life. In actual fact, there is no passage here, because the greenery is intersected with a myriad rushing streams. Although there is a very large citrus orchard just below the rapids, the whole area is still delightfully wild and walking at night or in the dusk may still hold its risks or excitements. In 1946, while returning from dining at one of the two houses to sleep at the other, a hundred yards away, we had to have a lantern and a gun-bearer and, even so, were aural witnesses of the murder of a baboon by a leopard only fifty yards away. The orchard reminds us that such a rapid, giving a command of at least thirty feet, is an ideal site for taking off water for irrigation, which here could best be applied lower down on the Northern Rhodesian bank to grow early maize or winter wheat.

Immediately above the rapids on the northern side there is a





*The Zambezi River*

compact little natural harbour used by the canoe transport which takes heavy goods all the way up the river to Lealui, the capital of Barotseland, a three weeks' journey though it is only 200 miles. Here we can take our choice of craft, but it will be as well to choose something with a motor inside it or else we shall have to be sedulous in hugging the bank. The fact is that for the next thirty miles the hippos have been so much hunted by white and black alike that they have sworn everlasting feud with anything that travels on the river in a canoe. If it is small enough they will capsize it or, if it is too big for that, they will try their teeth on it and cause a leak. The putt-putt of a motor has so far warned them off, so we can pass along just above the lip of the rapids (praying that the motor does not choose that spot for failing) and head for the southern side of the now broad river in the hope of seeing elephants at their occasional drinking-spots on that side. The dense vegetation prevents our seeing the low ridge two or three miles back from the river over which runs a passable motor-road—passable, that is to say, if these same elephants are in a good mood. They, even more than the hippos, have been given a legacy of hatred, having been spattered with the slugs of native hunters to live on in pain and in growing ferocity.

The reach from Katombora up to the twin Kazungulas shows the Zambesi at its very best and broadest, provided again you have a craft which can survive the buffets of large waves as well as those of hippo-backs. At Kazungula on the south we reach the boundary between Southern Rhodesia and Bechuanaland Protectorate, marked by a large tree close to a quite up-to-date settlement of the W.N.L.A. organisation. On the northern side the older Kazungula is not much more than a receiving depot and quarantine station for the thousands of cattle which are swum across the river here to become food for Northern Rhodesia. They have come up on foot from Ngamiland and, surprising to say, very few are lost in the passage either by crocodiles or by failing to swim the three-quarters of a mile of quiet water. The long-legged cattle of Ngamiland are extraordinarily good walkers and rarely lose much of such condition as they have on their 200-mile trek. If they are bitten by tsetse-fly where they pass a zone of that

pest, preferably at night-time, then they must be killed immediately after the swim. The fateful *nagana* or tsetse-fly sickness in cattle is rapidly brought to a head by the victim getting wet and overtired.

It is here that we meet the Caprivi Strip, whose eastward extension separates the Zambesi proper from the Chobe, which has come circuitously from the west to join it. This curious anomaly of political geography will come before us more prominently later on.

Three or four miles west of Kazungula we come to another ridge of the same Batoka basalt which causes the Katombora rapids and the Victoria Falls, and here again it crosses the course of the river in a slanting direction and produces rapids which are of similar character to those lower down, but with a fall of only nine feet. On the south side in particular there is an excellent site for a small canal with locks, so that these Kasane Rapids cannot be considered as a real block to navigation. At the Mambove Rapids at the north end of the rock barrier the fall is distributed over such a long distance that this route has become the normal one for canoes to be hauled—or, at high water, even poled—to pass the rapids going up or down river.

At Kasane we are on Bechuanaland soil and, as far as the sand is concerned, it may be included in the Kalahari, since it is quite similar; but all along the route we have followed on both sides of the river there are scattered forests of one of the best timbers in South Africa, locally known as Rhodesian teak. To the south lies a large area of these forests, labelled the Chobe Timber Concession because it is leased to a timber firm. This teak is, unfortunately, heavier than water, and therefore cannot be rafted down the rivers, so it is taken by lorry to the railway line sixty miles away, near the Falls.

It is important to realise that the Chobe River to the west of the Kasane Rapids is slightly lower than the Zambesi itself a few miles further north. Consequently, when the waters of the Chobe cease to feed its own lower reaches, being dried up in the swamps to the westward, water from the Zambesi comes down through a myriad channels and keeps the lower Chobe full and deep with quiet water. The point of these remarks is that the Kalahari here has an all-the-year-round

navigational exit if the Kasane Rapids of nine feet are bypassed. It is true that the freight will have to be put ashore at the Katombora Rapids, but these are close enough to the railway to have a branch-line run out to meet the water-transport.

About eight miles upstream from the Kasane Rapids there is a saw-mill for this teak, called Serondella—and it is, for Bechuanaland, quite a large settlement. The Chobe here is very deep and very still. As one goes further west the water shallows, and for much of the year the bed of the stream is either dry or a muddy marsh, depending on the floods of the previous season and how far they have disappeared while coming through the Chobe swamps.

All this area upstream from Kasane is very much Livingstone country. It was a little north and west of the present Kachikau that he first came upon this tributary of the Zambesi. On that journey he had Mrs Livingstone and the young children with him, but soon decided to take them back again. As one can imagine from its proximity to swamps this is a most unhealthy region, but since the main body of the warlike tribe of the Makololo were then there, Livingstone did not realise how fatal it would be to European settlement. He spent most of his time with the notable chief Sebituane and his son Sekeletu on the northern side of the present Caprivi Strip, at or near Sesheke. He, therefore, did not foresee when he chose the spot called Linyanti for the first venture of missionaries there that he was almost certainly sending them to a death which killed four out of seven within a few weeks of their arrival.

The same area—that is, from the Mababe Depression up to the Chobe—was a very favourite hunting-ground of F. C. Selous, and indeed of many hunters after his day. As we have seen in the first chapter, it is still very much populated with game, which disperses inland away from the rivers in the rainy season, but concentrates along the banks of the Chobe and Zambesi when the surface pans of the interior have dried up.

Lastly, we must mention yet another man, whose influence over the future of the region may be even greater than that of Livingstone. This was Professor E. H. L. Schwarz, whose

name will always be associated with his book, *The Kalahari, or Thirstland Redemption*. It does not matter that his theories have proved untenable and most of his suggestions quite impracticable: the fact still remains that it was he who roused public opinion to take note of the potential value of this vast wet corner of the Bechuanaland Protectorate. Had he gone there as a younger man he would, no doubt, have continued his surveys until he had got a true picture of the drainage pattern and amended his suggestions to accord with what was possible. When quite elderly, in 1925, he performed, alone, an amazing journey in the region, culminating in a voyage of 250 miles in a pair of crazy dug-out canoes, with four paddlers, all the way down the Thamalakane River to the Makarikari Salt-pan—a voyage which was made possible that year by heavy floods. As he said in his book on the area, he 'preferred the risk of going down through the Kalahari by boat to the dreary journey through the Chobe swamps to Victoria Falls'.

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Now we must go back to our party hurrying along the road south of the Zambesi in their four lorries. The reason for haste, wherever the going was good, was that this was the middle of the wet season, and it was almost certain that the parts of the Northern Kalahari where we were going would include patches of the black soil country mentioned in Chapter I. We therefore wished to get south of the higher rainfall end of our section without delay.

Much of this road towards Kazungula permitted speeds up to 20 m.p.h., and the scenery did not invite any slower speeds. For the most part the road is shut in by the varied trees of the African plateau, many of them quite beautiful as individuals, but monotonous in the mass. It was a relief to cramped eyes to cross occasional grassy flats or *vleis*, where one could see for a mile or two over waving grass two feet high before plunging once more into the sandy, tree-grown ridges between them. The road is so much used for hauling timber to rail-head that there was little danger of getting held up by bad going, and by lunch-time we had reached a point where we could turn left and reach the old Hunters' Road of Panda-matenka.

This is quite a historical road (though even now it hardly deserves the name of 'road') for it has been used for nearly a century, first by ox-wagons and now bearing the W.N.L.A. trucks taking labour to the Transvaal. It follows closely the actual boundary between Southern Rhodesia and the Bechuanaland Protectorate, though it would probably be more accurate to put it the other way round, that it was the presence of the 'road' that accounted for the choice of the boundary.

The reasons for the road are interesting in themselves. In the early days it was far enough to the west of the Matabele country, then under the rule of Mosilikatse, to avoid friction with his touchy warriors. Yet it was also sufficiently to the east of the very dry, inhospitable country which we were about to traverse. Again, most of it was free from tsetse, so hunters like Selous could take their ox-wagons to within about 100 miles of the Zambesi, after which they had to use carriers and travel very light. After a few miles along this road we turned south-west along a mere stock route.

We were now west of the rocky outcrops of the basalt sheets which cause most of the rapids on the Zambesi and were on the Kalahari sand, which at this northern end is so much deeper than it is further south. Our speed dropped, therefore, and we began to grind along in low gear. Indeed, except over the rare hard patches, we were to travel in bottom or second gear for the next 2,000 miles, so that our petrol and water consumption became fantastic. At times the heaviest caboose was doing barely two miles to the gallon and using up to thirty gallons of water in a day.

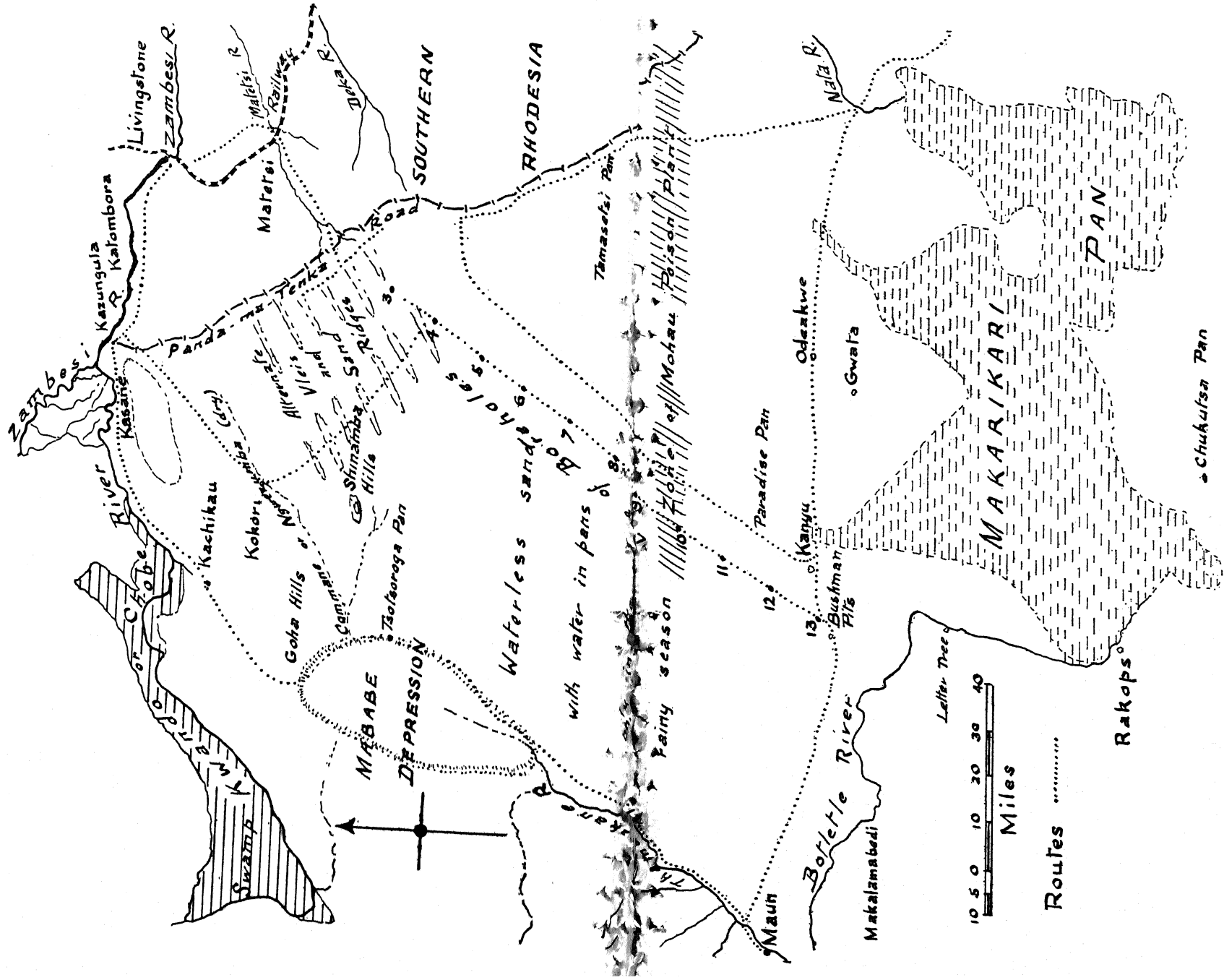
A little before dusk we came to the only collection of natives that we were to see for the next two weeks. These were a section of the Batawana tribe who had moved with their cattle to some water-holes on this wide but rather vague river bed, partly to avoid the tsetse-fly, which had been increasing round their former home in the swamps. A glimpse of these native cattle through the heavy vegetation was enough to revive the interest of Brian and Jack, who went off to inspect them while we were pitching camp. They came back in a rather downcast frame of mind, since the cattle were poor and carelessly managed. Both these experts had such high standards

that we rarely found either a cow or an owner of a cow who came up to their hopes. Still, these were cattle, living in typical northern Kalahari surroundings, of very mixed origin perhaps, but at least something to build upon.

I would willingly have gone with them to hear their criticisms on the spot, but there were already signs of a collapse on my part due to some germ or other resembling dysentery. Van immediately undertook my case and sent me to bed early with many pills and a little cornflour custard to wash them down. For the same reason the events of the next few days are not very vivid in my mind. Most of them I passed more or less prone on the long seat of the lorry, hearing as in a dream remarks of my fellows about the excessive tree-cover, the small amount of grass, the prevalence of lion, and so on. If I made anything of these snatches of conversation it must have been that our mission was not meeting with much promise.

Illnesses make dull reading at any time and there is no room for them here, except to say that it has always surprised me that there is not more of the dysentery kind in African travel. However careful one is about boiling the water before putting it into the water-bags to cool, sooner or later the germs get in, and then it depends on one's natural resistance how long it takes to throw off the illness. This particular bout lasted only four or five days and the only interesting thing about it is the behaviour of Van, who was my 'doctor'. It will be guessed that I had to leave the camp at night fairly frequently to go out a little way into the bush, and whenever I did so I noticed that Van was awake and got off his camp-bed to ask how I was. Then I began to notice that when I went back he was not there, nor was his rifle, and I rather guessed what he was doing. I was being enough nuisance already without disturbing his sleep, so later on that night I told him I was not going to have him leaving camp every time I did. He apparently acquiesced, but I do not think he obeyed. In the morning, just before we started, he showed me the pad-marks of a lion only a few yards from the camp, but never hinted in the least at 'I told you so'. That was the kind of man he was.

The trouble with lions, of course, is not their grunts or their roarings—when they really mean business, you hear not a

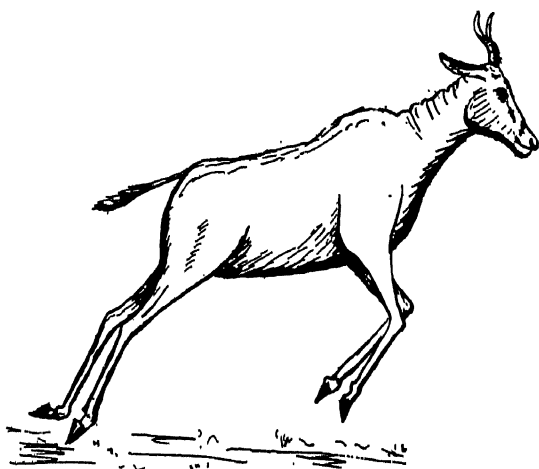


The Kalahari, North-eastern section



sound till the pounce is made. Lion stories are liable to embroidery, but here is one I had from an eyewitness to show how silent they can be.

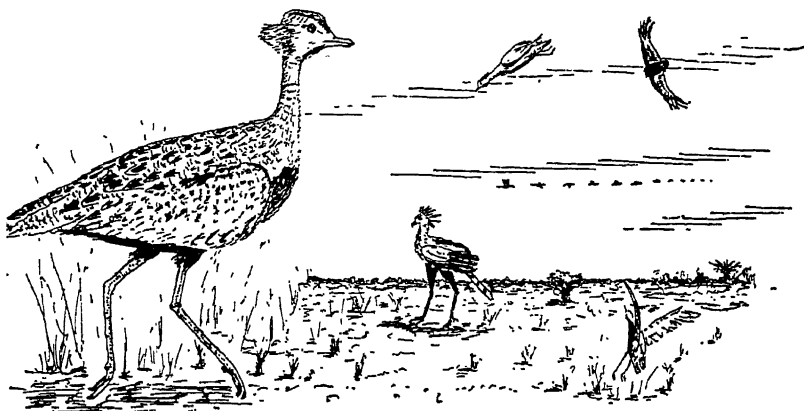
Three men were going to sit up in a tree to get a man-eater in Nyasaland, and were yarning in the dusk at its foot. When it was dark, just when they were about to get up the tree to begin the watch, one of the three failed to answer a question put to him. The others heard a faint rustling and then a shot, and saw their native hunter coming over to the tree. He had fired at and scared away the lion who had picked up their companion from their circle without a sound and carried him twenty yards—badly mauled, but able to survive the ordeal.



*A tsessebe in action after J. G. Millais  
see page 74*

AT TOP OPPOSITE: *Kalahari Birds*

Left to right: *Koorhaans, Secretary Bird, Bateleur Eagle*



### CHAPTER III

## *Elephants' Paradise Lost*

IT is curious that the country we were about to enter to the west of the Panda-ma-tenka road is now almost unknown to the white man and yet was traversed through and through eighty to a hundred years ago. Livingstone himself always crossed the Botletle River (which he called the Zouga) to the west of the main Makarikari Salt-pan and went due north to the Mababe Depression. But the hunters who followed in later years often struck north from Shushong, keeping to the east of the Makarikari, and roamed in search of elephant all across the area between the Mababe and the Panda-ma-tenka route. Many of these hunters were Boers who left no account of their travels, but William Charles Baldwin (1852-60), James Chapman and Thomas Baines have all written books which give a clear description of the country as it then was. Modern travellers who read the books of the two latter must feel ashamed of their own easy travel and marvel at the skill with which those pioneers took astronomical observations for position, and noted details of natural history, and at their endurance of privations which would have turned most men back from Africa for ever.

The most remarkable difference now is the complete absence of some animals, such as the white rhinoceros, and the comparative scarcity of others, including elephant. At Kokori, where we camped the first night, there are water-holes which were almost certainly used by these early hunters, including F. C. Selous, but for various reasons, including the fact that they were more interested in telling the tales of the hunt than in the places where the hunt took place, it is difficult to sort out exactly where they went. Even Livingstone was here in too much of a hurry to reach his goal to bother much about names of places, and the only sure guides are Chapman and Baines a few years after him.

It was most annoying to be laid low at this particular point, for Kokori is on a river-bed which has the typical native name of Ngwezumba, and on the map the intriguing note is attached: 'Water is obtainable almost anywhere in river-bed by digging in the sand.' Had I been fit, we should certainly have made a detour here to confirm what the author of that note had seen, and I rather expect this river-bed may become important when the country on either side is more fully used. Probably it runs as a river only once in twenty years or so, as it did in 1925, when for a day or two it may empty into the Mababe Depression, but it is obviously a seepage line for rain percolating through the deep sand on either side of it and is, therefore, a line for water-supply in drought years. It is only twenty miles or so from the Shinamba Hills, which I was also anxious to see, since they must represent the original rocky surface of the land, which elsewhere is covered with the sand. Chapman first discovered these hills in 1853, and the river-bed, of which he says: 'It seems to have been the channel of a running stream, to judge from the appearance of its banks lower down.' Few people have been to these two conical hills, but I am inclined to think they may ultimately be an important centre for any cattle industry which may develop.

As things were, I was not able to take an intelligent interest in the route we were following until we were sixty miles beyond that interesting locality where Chapman had found plenty of grassy flats with feed and water for his oxen, not to mention enough game to keep his party of at least sixty men fed for over three weeks. After that he travelled down the Ngwezumba—

which he calls the Commene—nearly to the Mababe Depression. Of this journey, unfortunately, he did not make a map. Meanwhile, my companions had made careful notes, and clearly the route we followed, as marked on the map, passed through light forest on the sandy ridges and across at least ten *vleis*, or grassy flats, all trending towards the south-west. These features will be very important in any development in the future and need further description. The alternation of sand-ridge and peaty flats is fairly regular, and can be regarded as fingers of sand spreading into a peaty plain or as fingers of peat invading an expanse of sand. The flats are almost without trees, presumably because the dark soil has too much acid in it, but long, tussocky grass grows there. There is every reason to believe that they will grow crops when a water supply is available for native villages to be established, as the average rainfall here is about twenty inches. In the dry season the flats are the haunt of game, which in the wet season takes to the sand-ridges: the same procedure will be necessary if cattle are to take the place of game.

We were now on the line of bore-holes which had been drilled some months earlier as part of the general reconnaissance; in fact, I came to life again, so to speak, at Borehole No. 5. We were bush-bashing with a vengeance now, though every now and then we could use the track made by the drillers' lorries, and we were making good time, up to twenty miles in a day. The country was curiously patchy, and we would pass suddenly from dense low thorn-scrub into an area of tall, scattered trees for a mile or two and then plunge once more into denser vegetation.

Some of this was not thorn, but a very interesting shrub which, off and on, we met with over the whole of the Kalahari. The musical native name for it is *mohonunu*; it has a wide distribution, far outside the Kalahari. The botanical name is *Terminalia sericea*, and, as *sericea* implies, its leaves have a silky, even a silvery appearance, growing at the ends of short twigs. Indeed, it is a rather beautiful shrub, rising to the magnitude of a small tree in favoured districts, though only a low bush in marginal conditions. Like all the Combretum family, of which it is a member, it has a curious winged fruit, the membrane surrounding the seed turning pink or even red when

fully mature. It is actually an edible shrub, though evidently not as palatable as some others, since animals resort to it only in times of famine. It grows in solid stands as well as dispersed among other vegetation, and altogether is a worthy member of the typical Kalahari shrub association.



'such tough-tongued  
creatures as the  
giraffe'

The same cannot be said for the numerous thorny shrubs, even though many of them are eaten by such tough-tongued creatures as the giraffe. The variety and, one might almost say, the ingenuity of some of the thorns they bear are hard to believe, and deserve fuller mention. They appear to have evolved in such a way that they will catch on to hide or clothing from whatever direction it may approach.

The ordinary 'whitethorn', so widespread over Africa, is a comparatively mild member of the thorned tribe. Its long white thorns give it a rather handsome appearance, especially in the winter months, when it loses much of its leafage. The camelthorn (*Acacia giraffae*) is another with straightforward thorns for the most part, and in any case this makes full amends by producing long pods with nourishing beans which are a protein food for every beast that can reach them when green or pick them up when they fall on the ground.

From them one passes on, in the hierarchy of thorns, to the *haek-en-doorn* well-known in South Africa, and the *wacht-en-betje* or 'wait-a-bit' thorn, which together have accounted for the ruin of more European clothing than all the rest. When one reaches the *Commiphora* group, the thorns begin to occur on the trunk of the tree itself, sometimes even in rings like a *chevaux-de-frise*.

One seeks for a reason for this excessive thorniness in plants of arid regions, which occurs also in other parts of the world. It is easy to suggest that the plants have grown thorns in the long process of evolution as protection from being eaten by animals, and plain spinosity would appear to be thus explained. But one must find another reason for the recurved thorn of our own rose-trees, for instance, multiplied and many-formed in African shrubs, since these hold the assaulting animal. Perhaps that is a communal effort of evolution to prevent animals from passing through a belt of the shrubs. There is something almost human in the offensive-defensive type of thorn whose straight and long spine is reinforced at its base by two or more recurved to catch and hold anything fibrous coming from behind or before.

The acme of self-protection for an African plant is perhaps reached in the buffalo bean, a climber which is found in damp places, and is a greater scourge than any thorn. The plant itself is handsome and pleasant to look upon, but the long pods it produces in the rainy season with their velvety bloom are a real menace. This bloom is made up of a myriad tiny hairs, which not only come off when touched, but blow off in a breeze, so that mere proximity is enough to produce the itch which is the result. 'Itch' is a poor word to describe the pain which follows in a few minutes, and there is nothing one can do beyond stripping completely and, if possible, doing one's writhing in water for the hour or so during which the attack lasts. The clothing itself is, of course, full of the hairs also and must be washed and re-washed before it is fit for use again.

In these more wooded parts of the northern Kalahari there is rather less scrub and more big timber. None of it is really as big as it is closer to the Zambesi, but the Rhodesian teak, the beautiful *mukwa*, and several other kinds of timber are occasionally found in stands which invite the lumberman. These trees withstand ordinary bush fires, but there seems reason to believe that when a good rainy season producing high grass is followed by a very dry season the intensity of the fires is liable to kill off large areas. That, at all events, was the reason we suggested to ourselves on reaching very large forests of *mukwa*, all about the same age (about forty years old) as though they had all started after one such holocaust.

A curiously soft-timbered large-leaved tree known as *mogongo* is found in these forests, looking not unlike a laurel turned into a thick-boled tree, quite different from the acacia type. The dense shade thrown by these trees makes them a shelter for small fry, such as the tiny stembuck and the duiker in the heat of the day, and no doubt also for lion, who will always take the best places for a siesta. Among the taller trees the *mopane* already mentioned is not so happy, and it seems to prefer the areas further south, where it can take all the light coming from the sky instead of sharing it with tall brethren.

Another universal plant, to be found from Lake Tanganyika south to the Union, is a relation of the *mopane*, which is a



*Bauhinia*

*bauhinia*, the leaves of which are usually twinned, resembling the wings of butterflies. This smaller *bauhinia* has a most delicate flower, in shape somewhat like that of a rhododendron, but much more crinkled and scalloped. These range in colour from red to pure white, and though they seem to last only a day the shrubs go on producing them for several months. This bush too is edible when the grasses dry up or are burnt, but, like the *mopane*, it probably has too much resin in it to be really tasty to animals. It is said that the dried leaves of *mopane*, which is deciduous, are preferred by stock to the green leaves, no doubt because the drying drives off the less attractive constituents of the resin.

It was at Borehole No. 6 that we first met with the poison-plant, *mohau*, and we were very anxious to plot the distribution along our routes, as it may well be an important factor in ranching. It is too small to be called a shrub, and grows from a thong-like root after the style of a horse-radish. Its long



1 Starting from Victoria Falls. (*Left to right: author, Jack, Harry, Cecil, Brian, Van*)



2 Sounding a bore-hole





3 Mohau: the poison plant



4 The grapple-plant

See page 131

leathery leaves do not look appetising, but they spring up from the resting thongs at least two months before the grass begins to sprout in the spring, and that is when stock will eat it—to die a few hours later. Either it loses its poison when fully grown or else it is avoided by stock when there is grass to be had; at all events, the dangerous months for *mohau* are September, October and November. This plant crosses the border to the east into Rhodesia, where it is a source of anxiety to stock-owners. As far as our mapping of it can be called exact, it appears to occupy a zone of soft, sandy soil, as shown on the map (pages 55-56).

While we were observing at our leisure these typical plants of the country we were being introduced more insistently to the insect pests. From one we were comparatively free, the mosquito, which, of course, needs surface water in which to breed and of which there is none in the Kalahari proper. We soon came to know the *mopane* fly, a small black fly which must live on the juices of the *mopane*. It does not bite, but it swarms over one's hands and face, for a change of juice no doubt, and is just a nuisance and a persistent one. It retires at night, however, when its place is taken by another host of flies and crawlers. At this particular point our worst pest was the stink-beetle, a tiny black beetle little bigger than our ladybird, which when trodden on emits a most powerful smell.

For coping with the insects at night I had asked Van to have a large canopy made of mosquito netting. It was about nine feet long and six broad, and when hung from ropes stretched from one caboose to the other it made an excellent refuge from all insects seeking the pressure lamps, which, of course, were hung outside the netting. Our plan was to have a tiny entrance-porch to it at one end so that entering it could be done in two stages. As it was a last-minute order in Bulawayo to the native sewing-machine people, there was not time to add this refinement, so we had to lift the bottom of the netting in order to enter and a surge of insect-life entered with us at the same time.

The stink-bugs were in such numbers that an hour or so after dark the floor-cloth just outside the netting was carpeted with their shiny black backs and every time the netting was

lifted a battalion or two would crawl in, and sooner or later would appear amongst the food.

Following African custom, we would camp in daylight and as dusk came on would have our sun-downers, followed as soon as possible by a meal—which was as soon as the cook had prepared something for us. This was a quick business when the something was out of a tin, but not so quick when it was something we had shot during the day.

By the time we had got halfway down the line of boreholes, about No. 8, my stock experts, Jack and Brian, were beginning to pull long faces, and the *mohau* was not the only reason. The boreholes themselves were very promising, giving an adequate supply of water usually within sixty feet of the surface, but the dense growth of trees, and consequent paucity of grass, was not encouraging for ranching, while the occasional open grassy *vleis* barely offset the dense patches of thorn. It would be very easy to lose cattle in such country, and management costs would, therefore, be high. They were very cautious about an opinion, however, and indeed throughout the trip they were never unduly excited or depressed.

When we had left the *mohau* belt behind we got to more open country, better grass and much more game. We were most anxious to find out which of the many shrubs were edible for stock, and we hit upon a useful way of finding out—namely, examining the stomach contents of any buck we shot. Of all the heavy ruminants, the one most like domestic cattle is the eland, a heavy beast carrying much more fat than any of the other antelope; but they are carefully protected by law, as they are getting scarce in most parts of southern Africa. As head of the mission, however, I took the responsibility of asking for indemnification from the Administration for killing one for the purpose stated—if we got the chance.

We had been seeing plenty of giraffe—twenty-eight being in the largest herd—and quite often a duiker or a stembuck would get up near us and dash off, not always soon enough. We were going faster now that there was less bush-bashing, and were nearing Borehole No. 10 when Harry, our driver, the keenest-sighted of all of us in the front caboose, called out, 'Hundreds of springbok ahead!'—and we saw them leaping over the low bushes in their characteristic way. A few

seconds later Harry said, 'No; they're too big for springbok. They look more like eland, but I've never seen so many or so active.' And eland they were, 400 of them. They are heavy beasts, with a very pronounced dark dewlap which swings as they run, affording a means of quick identification. On account of their size, they are not able to sustain a long chase, yet here they were jumping over obstacles like impala or springbok, which must be a tribute to their fitness. The whole herd doubled back and passed us in a long line some 300 yards away, as magnificent as a stampede of cattle and much more graceful.

It seemed a pity to give them real cause for fear, but it had to be done. We accordingly shot one 'for scientific purposes', and the stomach contents were examined very carefully by our two experts, who reached an important conclusion therefrom.

Although it was the season of plenty of grass, quite half of what this eland had eaten consisted of nibblings from shrubs, and while it would be unwise to make too much of a single instance, it is permissible to think that there is both nourishment and palatability in the shrubs which should carry stock through periods when there is little or no grass; always provided that the stock concerned know how to browse from shrubs, which the Afrikaner type of cattle does know, but which English breeds have to learn.

As we pushed further south the game was even more evident. Thus there was another herd of some 250 eland and several small herds of gemsbok, the South African equivalent of the Kenya oryx, a large and yet fleet animal with beautifully straight horns up to three feet in length and more. Both eland and gemsbok, in spite of their size, are able to go for long periods without water, presumably because, like the springbok, they get enough water from the dewy grass in the early morning, and that is a feat which not even the Afrikaner cow can achieve.

There is something indescribably fascinating in this journeying through big game country with the chance of coming suddenly upon groups of them. What is more, the interest is mutual, the game themselves being very curious as to what you are and what your intentions. It is true that fear is a

component of their feelings whereas it is usually absent from yours, but unless you pursue them with intent the game will not disappear over the horizon, they will merely move to what they consider a safe distance and then stand and stare. If you take your binoculars you can attempt to analyse that stare, and you will find it as varied as it would be in human beings. A wildebeeste, for instance, may show by his occasional pawing that he just does not like you, and tells you plainly that you are occupying his best patch of grass. Springbok, on the other hand, are the cheeky and inquisitive urchins who are saying alternately, 'You can't catch me. Come on, try' and 'What the blazes is this silly two-legged animal trying to do?'

In speaking of African game one is conscious of a dearth of suitable collective nouns in our vocabulary, and we rarely get beyond terms such as 'a herd' or 'a flock', which is only slightly better than the habit of the Australian stockman of calling everything a 'mob', from a herd of cattle to a pile of peas on his plate.

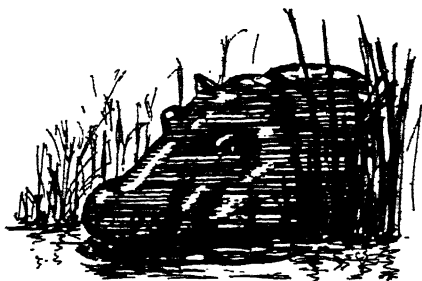
Our language is rich in collective nouns, particularly for birds, England having lost her packs of wolves and sabretoothed tigers long before she became interested in group-names. Thus we have our 'gaggle' of geese (or 'skein' if they are flying), our 'murmuration' of starlings and our 'charm' of goldfinch. Who finds such delightful descriptive names I do not know, but it pleased us in the Kalahari to devise some for African animals to add to the only one we knew, a 'pride of lions'.

No one can be satisfied with talk of a 'herd' of giraffe once he has seen those extraordinary animals breaking into their queer rocking-horse gait, their tails constantly revolving in a sort of disdainful sweep as they go, and I for one like to speak of a 'canter of giraffe'. Similarly with the hippopotamus: one seeks for some apt word, and my choice would be a 'wallow of hippo', for they do seem to revel in the element in which they spend most of their time, whether piled together on a submerged sandbank or presenting the usual profile of ears, eyes and nostrils as they stare at you or rear an ugly head to gape or yawn at you with threatening teeth in a mouth so wide that it can compass most canoes.

Seeing a picture of a hippo on land one wonders how they

came by the name of river-horse, since nothing so unlike a horse could well be imagined. I believe I stumbled on the reason when I saw a pair fighting in the Zambesi. They were rearing at each other in the water, showing only head and shoulders, with a proud curve of neck, and I was at once

*'an ugly head to  
gape or yawn  
at you'*



reminded of the horses' heads one sees pictured in Assyrian or Egyptian carvings, and felt that the Greeks were right, as usual, in their choice of name.

For the other enemy of men in canoes, the crocodiles, one cannot help thinking of a collective noun that conveys dislike or revulsion. The only occasion on which one normally sees them in a group is when they are basking on some mud-bank, when they look so much like slithery logs glued to the mud that I make the unkind suggestion that we should speak of a 'slime of crocodiles'.

Turning to royal game, one becomes so fond of elephants, even while fearing them, that one looks for a pleasant name, yet if we are to include some descriptive element in the name it must have something to do with a very characteristic habit of theirs. Readers may recall the absurd limerick:

I sat next the Duchess at tea,  
And it was as I knew it would be:  
Her rumblings abdominal  
Were something phenomenal,  
And everyone thought it was me.

When elephants are browsing in the forest as is their wont, their rumblings are so phenomenal that some hunters have said they have heard them at over a mile distant. Some also

believe that these rumblings are not evidence of indigestion, but a voluntary chorus intended to let each other know where they are, and the reason for this belief is that if they are alarmed the noise stops instantly and the whole herd can vanish swiftly and silently away. In suggesting we should speak of a 'rumble of elephant', therefore, I am not alluding to intestinal weakness on their part, but to a very clever device for intercommunication.

For the many varieties of antelope and buck that Africa can boast the collective noun should convey something of their characteristic appearance when moving. That is how I came by the idea of a 'hurtle of hartebeeste', that large beast with its sloping shoulders and ungainly stance, appearing to be loose of joint and careless of where it goes as it thunders over the plains which are its haunts. The same is true of its fleeter cousin, the tsessebe, and indeed of another cousin, the kongoni of East Africa. If 'hurtle' be accepted, then the smooth gallop of the gemsbok or oryx should be added both in justice to their easy motion and in the interest of alliteration. We tried out the pace of a 'gallop of gemsbok' on several pans and found that when they really got down to it, with their long, straight horns laid back almost on their rumps, they were touching thirty-five miles an hour.

But there is no end to the names which fancy can suggest, and there is always the danger that fancy may degenerate into pedantry or preciosity.

The further south we came the nearer the water in the boreholes was to the surface of the ground. At Boreholes 10, 11 and 13 the steady level of the water was only about fifty feet down. At Borehole 12, on the other hand, it was eighty feet down and was salt, even bitter. The variation in depth and quality is puzzling, and presumably it is due to variations in the true rock surface below the sand. Wherever this surface was at all like a basin, the water would be so prehistoric that it would be charged with salts.

There is reasonable evidence that a zone about twenty miles wide running east and west along the north side of the Makarikari Pan has water within twenty to fifty feet of the surface, though hard limestone (calcrete) must be pierced to reach it. There is nothing mysterious about this water being nearer the surface here than in the north, for in the 100 miles or so

from the Panda-ma-tenka road there is a drop of some 500 feet in the level of the land and, therefore, there should be a steady but very slow seepage underground from the rainier area in the north to the drier precincts of the great salt-pan.

We had now reached a region of high ant-hills, greyish-white and looking like small monuments, and their presence was in itself a promise of water not too far below the surface. That extraordinary insect, the termite or white-ant, must have a regular supply of water within reach of its tunnellings; even though it be a long reach, for in one case a vertical shaft under an ant-hill was followed down for seventy-five feet in digging a well.

It was a relief to all of us to get away from the trees, which apart from hemming us in had prevented us from seeing the myriad pleasant things we now saw clearly—the birds, the game, distant vistas across wide pans, and glorious clouds. It was Van's custom when we knew the route ahead to walk off after an early morning cup of tea and let us pick him up anything from two to six miles further on. These were obviously times of meditation for him, away from the bustle of the camp, but his thoughts were just as much on immediate practical plans for the day as on the flights of philosophy he loved to indulge in. It was on one of these forerunner walks that he mounted on an anthill and signalled back to us that he had reached what one can only call The Road, that is, the W.N.L.A. track from Francistown across to Maun. A few miles to the west of the junction lies a locality known as Bushman Pits, which I had last seen four years earlier as a halting-place with uncertain water in the 'pits'. Now there was a cattle-post here, the neighbouring area being rented by a Ngamiland farmer to pasture a few hundred cattle, centred upon the water in the pits, now widened and deepened.

This temporary occupation for grazing was an object-lesson in what must happen in the Kalahari when there are too few water-points. For nearly a mile round this solitary well the grass was eaten or trodden out and inedible weeds had flourished instead. There was no actual wind erosion visible, but the sand was bare enough to encourage it. On the other hand, in a zone beyond that again the grass seemed to have improved from being grazed the right amount, being less



coarse and tussocky and having more edible annuals than right away in the bush.

The ranch, if such it could be called, was being managed by a quiet but interesting man of middle age, whose appearance made me sure that he was the son of the picturesque Roelef van Staden who was the companion of J. G. Millais when he was hunting in the Transvaal in the late 'nineties, and of whom he gives such a pleasant picture as 'one of Nature's gentlemen'. His father, again, had been a Boer hunter in the Kalahari very soon after Livingstone pioneered across it.

The stockman's English was not very good and it had been a long time since I had read Millais, so I did not manage in the short time that we had with him to ask if he was indeed Roelef's son. Now that I have renewed my acquaintance with the book I feel fairly sure that I had been seeing 'little Cornelis van Staden, aged six, the youngest son of the old hunter, a miniature of the father both in body and mind'. To those who like books on game-hunting (which, to my fancy, are apt to be monotonous) I can recommend without stint Millais' *A Breath from the Veldt*, for besides being modestly and graphically written it contains some of the best animal drawings I know of.

It was now our plan to go about ten or fifteen miles east and return to the northern end of the Kalahari on a course parallel to our recent track, and we made good time along the W.N.L.A. road for about twelve miles. We then came to what by Kalahari standards must be called a settlement, since there were three or four small brick huts and a well. It is known as Kanyu and is a post maintained by the W.N.L.A. organisation for watering and fuelling their lorries. It is on the characteristic calcrete or porous limestone, what Livingstone always called 'madrepore limestone', and the well is thirty-five feet deep with quite permanent sweet water within twenty-five feet of the surface. A W.N.L.A. native foreman and his family are the only residents and at certain seasons of the year they appear to have an exciting time with lions.

A few miles further on we came to the 'turn-off' of a former party, whose track, now nine months old, we were to try to follow. We were promised by Cecil that we should see the finest 'pan' in the whole Kalahari, discovered by him on that former journey. We left the road and got into very heavy

sand under fairly good grass for about eight miles before we topped a low ridge and saw before us what we gave various names to, but finally christened Paradise Pan.

The best way to imagine a typical Kalahari pan is to think of toiling through low, gorse-covered sand-dunes, as in East Anglia, and then suddenly coming on a wide lagoon. The contrast is just as vivid, but instead of water the pan has hard, flat ground with short grey-green grass. Instead of waterfowl wheeling above it, there will be some rapidly-moving objects flashing black and white and orange which are a herd of springbok, or some large, lumbering objects looking quite black against the light ground which will be buffalo or wildebeeste. A definite black-and-white motif is present in the form of a few handsome cock ostriches and the gemsbok. Somewhere in the flat expanse in front of you there will be a shallow lagoon and in the rainy season it will have its own collection of migrant duck, cranes and even storks. These last will often gather in the sky for their wheeling dances, perhaps a hundred birds, ceaselessly following each other in circles, outlined clearly against the light cumulus clouds which so often gather over these damper spots. At dryer times of the year the pan may be white rather than green, with far fewer animals, and any wheeling birds in the sky will be vultures scanning the ground for a recent 'kill' by a lion.

Paradise Pan was perhaps three miles broad and two or three times as long, and even before we descended to its hard, short-grassed surface we saw herds of zebra, gemsbok, eland, buffalo, wildebeeste, and springbok scattered about, as pictured in those early books of South African travel when the whole sub-continent was full of such game.

Most pans are treeless, but this one had half a dozen 'islands' of thick thorn trees, and we made for a central one for our camp site. While camp was being made, we took one of the lorries and explored the pan, racing herds of zebra and gemsbok and even jackals. Scattered about were several water-holes and everywhere the grass was so thick and short that it almost deserved the name of sward, like an English meadow. From the rough map I made of it, I am fairly certain that it is a part of a long estuary leading into this part of the Makarikari Salt-pan from the north-west. At the time we persuaded

ourselves that the pan was previously unknown and unvisited, and that might have been so were it not that the guides for the early hunters, both British and Boer, were always Bushmen who must have known of it and probably had a name for it—which if we knew it would probably be more appropriate than Paradise Pan.

This racing alongside big game sounds peculiarly school-boyish, as though to justify Mrs Debenham's name for us, but in truth it was part of our job. As there were no domestic cattle within many miles of us to inspect as to condition, we had to rely on the appearance of the game instead, yet we did not wish to shoot anything except for the small amount of meat we required. In the lorry on this faultless surface we could catch up with and run alongside even the fastest of the antelope and view their state of health and weight to perfection. Over a long run it was the gemsbok and the wildebeeste that performed best, the former in particular showing real 'bottom'—that expressive if horsy word used to describe the combination of stamina and courage in a really fine animal. Unfortunately, there were no tsessebe antelope, the fastest of them all, for us to try out in a race. As Millais says of them, 'The sassaby, indeed, seem to have solved the problem of the greatest amount of speed to be got out of antelope legs with the least possible exertion, and may be highly commended to any sportsman who wants a lesson in hard riding for nothing.'

During the night there was a stampede of animals very close to our camp, caused no doubt by lions, to whom the islands of heavy thorn must be ideal places from which to stalk their prey, though whether they could catch anything on that open grass is doubtful. It was a dark night and Van, who got up to see if the stampede was going to come through the tents, could barely discern that the first herd was either of buffalo or wildebeeste and the second of zebra. Those of us who preferred to remain in our blankets could easily distinguish the heavy rattle of the cloven hooves of the buffalo from the clear-cut patter of the zebra's feet.

Whether the wildebeeste, of which there are several kinds, are distant cousins of the buffalo or not, they are certainly somewhat similar seen at a distance facing the viewer, and when next morning we saw a solitary bull looking at us from

about half a mile away we thought, until he moved into profile, that he was a young buffalo.

When we moved off again we kept losing the very faint track in the sand, and in five miles we came to an isolated patch of the mohau poison-plant; we found it growing more frequently for the next forty miles, so the belt must be very broad along this line. It always seems to be associated with heavy sand, so, being slowed to a pace of one or two miles an hour, we had plenty of time to observe it.

When we did pick up the old trail we found it impassable, for a curious reason. The original track had been made by cabooses going in the same direction as we were now heading, but more recently a lorry had used parts of it for a journey in the opposite direction. The result was that the saplings and bushes were now all bent towards us, menacing our radiators and windcreens and doing some damage until we gave up trying to keep to the old route and just bent our minds on reaching a series of water-holes known as Krombi's Pits. We reached them within a few minutes of the departure of a herd or 'rumble' of at least six elephant, and camped there half-hoping, half-fearing that we might see something of it—but we did not. They had found a large patch of one of their favourite tubers (in size, shape and smell rather like a potato) and had forked up an area the size of a large kitchen-garden with their tusks and their huge feet. By the signs it seems that they first loosen the sand with one tusk and then throw it back with a forefoot, scattering the tubers on to the surface, from which they can pick them up daintily enough with their trunks. It will be understood that with so few human beings in this district there are no native paths, but those game paths which are used by elephants are very plain and permanent, their vast weight pressing down the soft sand into a semblance of cohesion.

It was later on, when we had again reached the Panda-matenka Road, that we noticed the way in which elephants appear to dislike the roads made by man and endeavour to block them by deliberately breaking down trees across them. We had to make short detours off that road every two miles at least to get round these obstacles. It seems a pity to destroy a pretty story of the elephant's intelligence thus apparently

demonstrated, yet in the cause of science I must admit that I came to doubt it after examining a large number of these barriers. An elephant will break down any tree of less than five-inch diameter of which he wants to eat the leafage, but he is much too intelligent to push it over in a direction in which it will catch on a neighbouring tree. Consequently, when he finds a route cut through the forest he will usually break the trees towards the road, so that they will fall clear. On the other hand, he seems to recognise a road as a sign of man and, unlike the lion and antelope, he will not follow one, but crosses it immediately. That again has its explanation. Antelope can and will make their way at need through thorn scrub, but they do not like it, and a path in the direction they wish to go is, therefore, a gift. The elephant makes nothing of pushing through ordinary scrub and low thorn, so he scorns every help from the clearings made by man.

Beyond Krombi's Pits we were in more open country with less low scrub and could pick our route without much bush-bashing. Van, therefore, went ahead in one of the lighter lorries to steer a course, and so good was his navigation that we were constantly passing along sections of the old spoor. It was here that we passed through some ten miles of young *mukwa* forest, the trees lofty but not more than a foot in diameter, with scant grass of the thatching type (that is, with strong stalks and little nourishment) beneath them. In another thirty years or so this *mukwa* forest will, no doubt, be of marketable size, but at present that area is of little value as ranching land. As we approached the Hunters' Road again, however, the soil improved, as much of it has come from the basalt areas to the east, and smiles appeared once more on the faces of my cattle experts.

Turning south again along this road, we could go at up to twenty miles an hour, in spite of tree-trunks laid by elephants, and through fairly open, well-grassed country. A few miles north of Tamaseti Pan, a spot much frequented by the old hunters, we met the *mohau* again, and with it the heavier sand and thorn-bush country. This third infestation of the poison-plant seems to define its habitat as a zone from ten to twenty-five miles wide running more or less east and west in latitude  $19\frac{1}{2}^{\circ}$  south, as shown on the map.

The Tamasetsi water-hole is a good example of what I call, perhaps with scant evidence, an elephant-made pan. It is merely a water-hole thirty or forty yards across and perhaps six feet lower than the surrounding country. It was probably always a spring of water for some part of the year, but the treading and wallowing of elephants for countless ages has made the bottom so muddy that it seals off the water from the surrounding sand, while the mud they have carried away after their mud-baths has increased the capacity of the hole.

Again we were just too late to find elephant, which were seen moving off into the high *mohonunu* scrub. We paused long enough to view their mighty footmarks in the deep mud which fringed the actual water, and to imagine how disgusted other animals must be when the lords of the forest visit such a pond and turn it into a thick emulsion of mud with their bathing and games.

We camped four miles south of Tamasetsi, after a fleeting interview with an elephant which was crossing the track just ahead of us. Harry was determined to get us as close as possible to the animal without risking a charge, and we did pass behind him at about 100 feet from his massive stern. Whether he wished to get away from the sound of our noisy gears or whether he just happened to be in a good temper we do not know, but he took no notice of us, though the following lorries were momentarily expecting us to provoke offensive action.

At the spot where we camped the elephants had been having a recent meal off the tops of mopane trees, which were broken down in all directions, so that it was difficult to keep the lorries close together as we preferred to do. On the other hand, we had plenty of firewood ready to hand, and mopane wood burns quite well even when green.

From this point we deserted the old Hunters' Road, which continues along the boundary of Southern Rhodesia, and struck due south heading for the native settlement on the Nata River at the Madsira Drift.

We were now south of the *mohau* zone and passing through the best cattle country we had seen since leaving Paradise Pan. The experts were busy assessing the carrying capacity of this heavily-grassed stretch, which they thought would bear one

beast to as little as fifteen acres, whereas we had been up in the thirty- or fifty-acre country before. This assessment was, of course, dependent on water-points being provided at a proper spacing.

. After passing a large and well-grassed *vlei*, at least two miles across and ten miles long, we began to see *Hyphaena* palms and tall ant-hills, both of them indicators of water not too far below the surface. There seemed to be few young palms and a good many dead ones, sticking up like telegraph posts. Dead palms are usually taken as a sign of a succession of very dry years—a bad sign, in fact. But it is arguable the other way too, that is that they have died from being water-logged at the roots, and I put forward this suggestion because we sometimes saw quite young palms, shallow-rooted one presumes, near very large dead ones, as though the roots of the older ones had gone too far and been rotted by a high water-table.

As we neared the Nata River we passed out of the Crown Lands area into part of the Bamangwato Reserve, and to Brian's delight saw some cows. They were in fair condition, but they had certainly made a mess of the country; the soil was trodden to bare sand within a mile of the cattle kraal and little verdure was left except a silvery shrub and a green broad-leaved weed, both inedible and, therefore, flourishing. There was no wind erosion, however, as there was plenty of thorn, some of which was edible. It was one more object lesson as to the need for careful management in such marginal country, and the only way to secure a rotation of grazing is to provide ample water-points and fencing—two expensive items far beyond the means of the native owners.

We passed a small native village, whence the children came out to see us (their elders were not interested as they see the W.N.L.A. lorries passing at least once a week), and then came to the enclosure of the W.N.L.A. depot, a police post and the drift itself. A drift is a ford in a river, but this one had been built up in concrete and was now a causeway of concrete, pierced with many openings for the water to pass through, creating a long dam nearly a mile in length. This in turn had benefited the grass along the banks, and we camped on something approaching a green sward under large trees, so

that the scene was not wildly different from that of an English park.

Both my visits to this spot have been in the rainy season, when there was a fine amount of water behind the causeway, but I was shown where the water comes to in a flood and there seems no doubt that if the causeway were raised another six

*Native boys  
washing*



feet, the sluices also being raised, a very large and long dam would result which would hold water throughout the year in considerable quantity. The Makarikari Pan to the south does not become salt-ridden for at least ten miles and, if necessary, some of the semi-swampland below the drift could be made to grow crops with the aid of limited irrigation from the dam thus created.

It is a misfortune due to latitude that the rainy season in the Protectorate is untimely, to use the word favoured by irrigation engineers. That is to say, the main rains come in the latter half of the summer, when the crops should be half-grown. By that time they have either failed for lack of early rains or are well away, and could even do with less rain than is showered upon them in February and March. The rivers, where there are any, are full at the end of March, but that is just before the cold season, when growth must be complete, and such water as gathers disappears during the winter without doing much good. In swamps, on the other hand, as in the Okavango Triangle, we shall see that the run-off is delayed for as long as two months or more, and there is still some left by the spring in September to start off the vegetation, mostly reed and papyrus, for the next summer.

It was on my first visit, at the end of the rainy season of 1946, that I witnessed what I call a Massacre of the Innocents



at this causeway. As we came down the slope of the bank to drive across it, there rose a cloud of water-birds, storks, herons, cormorants, and ducks, from just below the sluices, shouting imprecations at us for disturbing them at something very important. After crossing, we stopped and walked back, and disturbed them once more into flying away to a sandbank a hundred yards or so downstream. The sluices were running, a small waterfall as from a bucket falling out of each one, and every few seconds a small silvery fish like a small sardine falling with it. Below each miniature waterfall there seemed to be a composite animal, more or less obscured by the spray and turmoil, which appeared to have a series of mouths which were gobbling up each fish as it fell. We finally resolved this strange animal into a group of mud-fish (barbel), so closely packed as to have the appearance of one, each with mouth wide open, each trying to get directly beneath the shower of silver fish. As soon as we moved away, back would come the birds, driving away the barbel and snatching the helpless fry as fast as they came through. The barbel we could not count, but the birds numbered at least a thousand, so one could calculate that the store of fish in the dam, then only half a mile long, must be considerable.

We had a visit here from the Director of Agriculture of the Protectorate, who had come over from Francistown for a very useful discussion with us. There was also bathing here without hazard from crocodiles; fishing, or at least dangling a line in the water rather fruitlessly; and talk, with one or two white men passing through. With more attention to the water supply, this Nata River is bound to become a minor centre in time.

Further north, up the Nata, was the place to which Khama banished his son Sekgoma in the year 1906. An inspector of the B.P. Police, Arnold Hodson, was put in charge of this removal, and his account of it in *Trekking the Great Thirst* is very instructive reading. It shows, for instance, that dissension within the tribe of the Bamangwato is no new thing; in this case between Khama, the father of the present Tshekedi, and his son Sekgoma, the father of the present Seretse. Each of the principals had a certain following in the tribe and feeling ran high. At one meeting or *kgotla*, a speaker insulted Sekgoma



5 Camp at Paradise Pan



6 Typical grasslands of S. Kalahari



7 Damara women wearing Minerva helmets  
See page 98



8 Hottentot women and children

and immediately a struggle followed, which was only prevented from ending in bloodshed by the presence of the police.

The place selected for the new settlement was near the Southern Rhodesian border, and it proved to be peculiarly feversome and unsatisfactory. Had they chosen a place nearer the present crossing the tale might have been different; as it was, the migration was a failure, with many deaths from fever, and Sekgoma was received back into the main tribe in 1922.

Though we had been decidedly in the wilds for the last fortnight we had never been out of touch with authority. The Bechuanaland Protectorate has established the only possible system of communication for such a wide and trackless territory in the form of a network of short-wave wireless transmitting stations, of which the headquarters is at Mafeking. These stations carry out a scheduled time-table each day, during which anyone in South Africa can tune in and listen to official messages from the two or three transmitters. Some of these must cause merriment, as when a traveller who had broken his dentures received queries and reports concerning it over the air. At other times the messages can be vital, as in the case of serious illness, or important, as in reports of district commissioners, or merely dull, as in meteorological data and reports on cattle movements.

Our party carried a portable transmitter on my own caboose and two thirty-foot sectional masts for the aerial. These were quickly rigged by John and James, our Bechuana drivers, every evening as soon as we camped, just in time for Harry to keep our schedule at six o'clock. For most of the journey our station was Maun, and we only failed to get through when thunderstorms produced too much interference.

The newcomers to this system of communication were spell-bound when on the first night in the bush Harry tuned in and we could all hear something like this in a calm, clear, golden voice: 'This is ZNB Maun calling ZNB<sub>3</sub>! This is ZNB Maun calling ZNB<sub>3</sub>! Hullo, ZNB<sub>3</sub>! Are you receiving me? Over!'

To which Harry would answer: 'Hullo, ZNB Maun. Receiving you loud and clear. I have an important message for the District Commissioner!' and so on, with messages to and from our party, for the most part very official ones but

every now and then a semi-official note would interpolate itself, as when, some weeks later, I was congratulated by the golden voice on the arrival of a new grandson.

That voice was a very attractive one in any case, but it became doubly so at the very first signing off which ran thus: 'This is ZNB Maun signing off! This is ZNB Maun signing off!' and then, in a much softer tone: 'Good night, darling. God bless.' The voice belonged to Harry's wife.

He had been away from home for over a month, so it was not hard to guess why, when we left the Nata River for the straight run across to Maun, the leading caboose was liable to exceed the speed limit of safety and comfort.

The road was greatly improved since I had crossed it four years before and some speed was possible, especially across the wide, salty flats which mark the northern fringe of the Makarikari Salt-pan. It passes close to the northern boundary of the Bamangwato tribe, and our cow experts saw some of their cattle-posts. Like all the pastoral tribes of Africa, they become very fond of their cattle, yet they are apt to be careless of their welfare or at least of their comfort. On two occasions we found the cattle being let out of their kraal, where they had spent the night secure from lions, as late as eleven o'clock in the morning, which left them only five or six hours to feed before being kraaled again. They looked in fair condition, but at that season they should have been thriving. The Bamangwato tribe owes this good stretch of country to the cattle-wisdom of their chief regent, Tshekedi, who a few years before had asked the Administration for more room to expand, and would not be put off with what was offered to the west of his tribal territory. If only his sub-chiefs were as cattle-wise as Tshekedi, the wealth of the tribe would be much greater than it is.

Much of the herding is done by small boys, from ten upwards, and it is very striking to see these tiny tots ordering about, with perfect assurance, beasts twenty times their size. With such early training, it is no wonder that the men know every beast by name, colour, genealogy and character; it is also understandable that they do not like selling them.

As we pressed on westwards from Bushman Pits we ran into more frequent patches of pure *mopane*, which favours sand with

a strong fraction of clay in it and which, when growing thickly in spinneys, denies room for grass or indeed any plants underneath.

Quite suddenly one reaches a small descent of about forty feet, the edge of the sand-veldt, and sees large trees and a river, the Thamalakane, below, together with broad belts of the typical swamp-reed. This is something between a large grass and a small bamboo, belonging to the *Phragmites* group, and of great value for fences, huts, fish-traps, and even spear-shafts. The limestone or calcrete crops out in white masses on the banks as it does on the Nata River, and the monotony of the Kalahari changes in a hundred yards to the charm of forest, swamp and ample expanses of water.

Crossing a small wooden bridge spanning a gap in an embankment of limestone, the road turns left to run the last five miles into Maun, passing on the way the W.N.L.A. depot, with the pleasant houses of its manager and white staff.

Though the rainy season ends in March the Thamalakane is not in flood until June, as it takes those months for the flood-water coming from Angola to seep through the 150 miles of the Okavango Swamps. The rise is, therefore, gradual and rarely destructive. Maun itself is then on a long island, the main river overflowing into branches which pass behind it.



## CHAPTER IV

### *Embarrassment of Water*

**E**VEN an ordinary map shows that the north-west corner of the Bechuanaland Protectorate has a superfluity of water, whereas the part we have been traversing has an all-but-complete absence of surface water.

There are not many places in the world which have such a strange juxtaposition of too much and too little. There is the Nile, of course, running for a thousand miles through sheer desert, and the Indus and the Rio Grande, but these are special cases of rivers running to the sea through an arid region. In the Okavango we have the case of a river coming to practically a dead stop, facing a sea of sand which it cannot get through, and then recoiling on itself, so to speak, to form a vast swamp, where the water escapes ultimately to the air instead of to the sea. Some of it does get through to a lower area, where it forms the large Makarikari Salt-pan, but this, being a salt-encrusted plain for half the year and a shallow, treacherous mixture of mud and water for the other half, is a dead loss to man and beast and even to most vegetation. The contrast between the bare, dreary salt flats of the Makarikari and the lush verdure of the swamps is even more marked than that

between the sands of the lower Nile and the rich brown water of the river. If you can get the brown water on to the sand you can grow things, but if you get water on to a salt-pan you merely spoil the surface for travel and benefit nothing but some tiny animalculae in the salty mud and the vivid flocks of flamingoes which thrive on them.

Whether it is correct to include this Okavango Triangle in the Kalahari is open to debate, of course, but since the swamp soil is everywhere lightened by Kalahari sand blown on to it we may stretch the point. As far as the Protectorate is concerned, the Triangle is of present importance only in a small way, but of future potential value in a very large way indeed. The time will surely come when this wet corner of the territory will earn more than all the rest.

In this chapter, therefore, we leave the Ranching Mission having a few days at Maun for a rest and refit while we take a brief survey of the whole of the swamp area to the north and west of its administrative headquarters. It was not the concern of the mission for two reasons, either of them sufficient. The first is that the greater part of this corner is the native reserve of the Batawana tribe (together with subsidiary tribes) and is, therefore, occupied and not open to development on the same terms as Crown land, which is more or less vacant. The second reason is that much of the area is subject to the ravages of the tsetse-fly, which means that cattle cannot be kept at all. The future of the region lies, therefore, in a better use of the abundant water for agriculture.

As the outline map shows, the rivers which produce this superfluity of water are the Zambesi, the Kwando and the Okavango, which are curiously parallel just before they reach the region of the swamps. Even more curiously, they interconnect at high flood. Thus the Okavango when flooded can send water eastward to the Kwando, or, to use the commoner name, the Chobe, Swamps via the Makwegana spillway. The Chobe itself at high floods sends some of its water down to join the Zambesi, as we have seen, at the Kasane Rapids. These connections are to some extent reversible, so that if the Zambesi happens to flood much earlier than the Chobe the water will pass from the higher to the lower flood, and the same is true, though more rarely, of the Chobe and the



Okavango. This is a very unusual state of affairs for such big rivers, and we naturally ask why it should be so.

Unfortunately, exploration of the region is still only partial and we cannot be sure of the explanation. In default of any better one, we may accept the theory of Professor Schwarz, who considered that the depression which holds the individual swamps of all three rivers was caused by the crust-bending movements which in other parts of Africa have produced huge rift-valleys and very deep lakes. Whatever the ultimate cause, the three rivers may well have once poured their silts into this shallow depression, which runs north-east and south-west. The Zambesi barely touches the northern corner and passes on its way; the Chobe takes a sudden bend to join the Zambesi; and the Okavango, though filling the depression with its delta, finds an occasional way out of the depression and on to the true Kalahari via the Botletle River. We do not know enough about the discharges of the three rivers to compare them very accurately, but if we take the flow of the smallest, the Kwando-Chobe River, as 1, then probably that of the Okavango would be 5 and of the Zambesi 8 or 9. This over-simplified picture of where the water goes will do for our purpose, though it is inaccurate in detail.

The idea of using this excess of water instead of allowing it all to go to waste (except in producing papyrus, fish, crocodiles and hippos) is, of course, not a new one. Even Livingstone, the first European visitor, had ideas on the matter. The first definite suggestion came from Professor E. H. L. Schwarz, but, as we have already seen, it was founded on inadequate surveys and undue optimism. His general idea was to take most of the water of all these three rivers and lead it out into the Kalahari—partly for irrigation, but mainly to increase the rainfall of the Union of South Africa. An official expedition, led by Dr A. L. Du Toit, was sent in 1925 to examine the possibility of this scheme, and reported on it rather severely. The levels would not make it easy to take the water that way, and even if it did reach the Kalahari it would be of insignificant benefit to the rainfall. The report, did, however, recommend alternatives, which we need not follow at the moment.

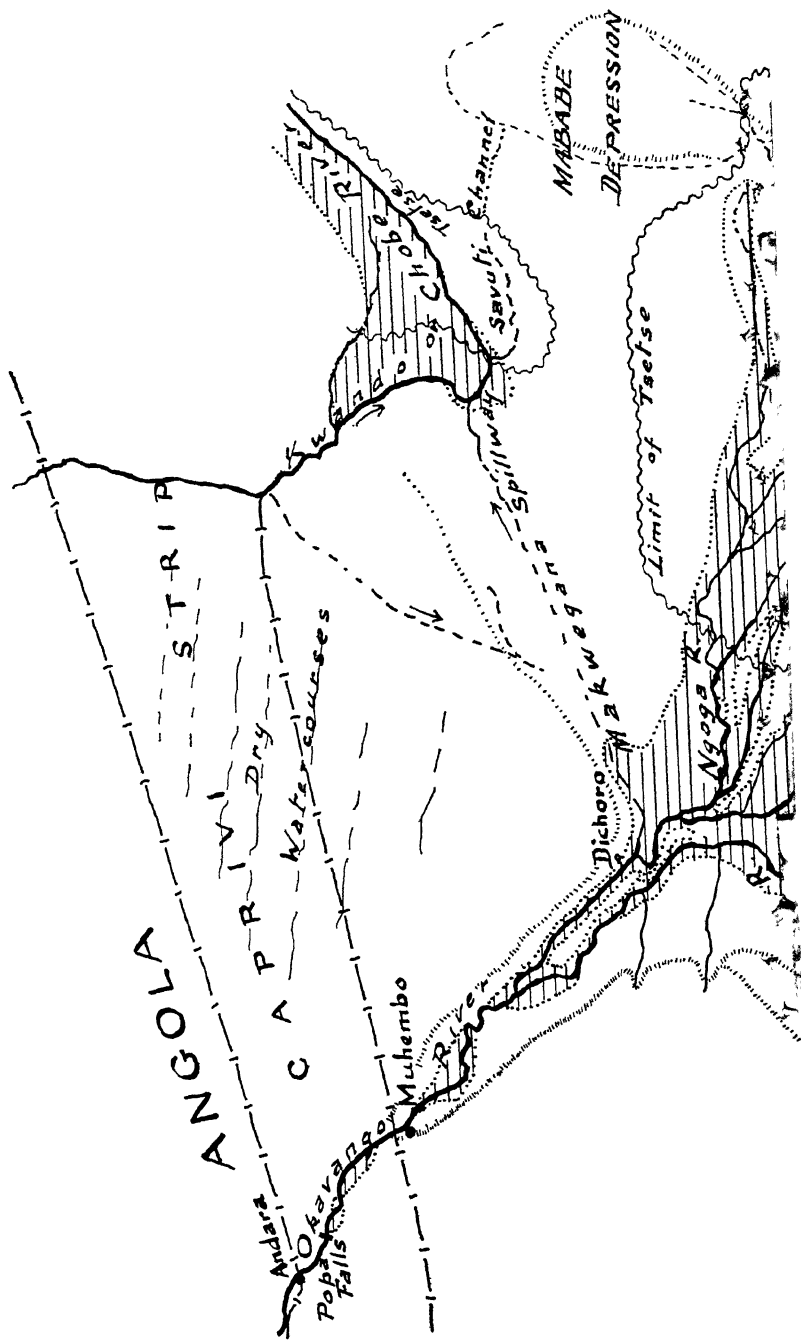
Later visitors have each had their pet schemes, but all have

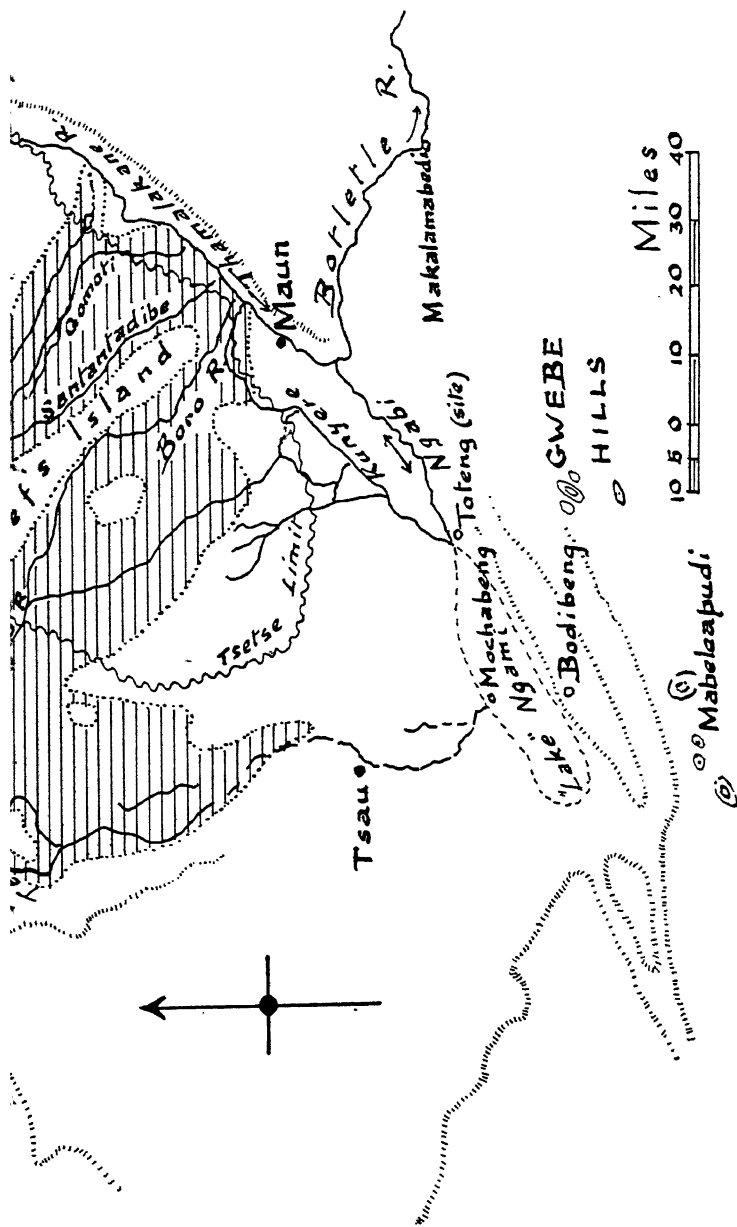
been based on insufficient surveys, and we cannot as yet point to any one as the best or even the most feasible. Most of the early schemes aimed at taking the water through to the Kalahari proper for irrigation purposes. The later ones have preferred not to let the water wander, as it does now, through the swamps, where it is merely spread out to the heavens and mostly evaporated. They plan to use the water in or near the swamps themselves, and this does seem the more reasonable proposition.

Of the three rivers, only the Okavango can be said to belong to the Protectorate, at least in its last and swampy phase. It gathers its water from the forested highlands of Angola (Portuguese West Africa) and after hesitating somewhat whether to flow south-westward to the Atlantic, southward to Etosha Pan in Ovamboland or south-eastward to the Kalahari, it chooses the third route.

Gathering tributaries on its left bank and none on its right, it flows through districts thinly populated by rather unpleasant tribes, who have now decimated the once-teeming game, till it forms for a while the frontier between Angola and South-West Africa. Its course is strewn with rocky rapids, navigable at high water by canoes, but full of risks at low water. In the occasional quiet reaches the risks are even greater, for in the long run the persecuted hippos slay more of the tribesmen than do the rapids, and the crocodiles probably come second.

The river then enters the Caprivi Strip at Andara and crosses it in twenty miles. This strip of land, about 300 miles long and averaging thirty miles in width, still proclaims on the map that in the eighties of last century a German Chancellor was prepared to outrage geography and all common sense in order to give his nation access to the Zambesi and a route half across Africa. It did not disturb him or his countrymen that it was impossible to travel along it, as it is very nearly desert and lies between two almost uncrossable rivers. In fact its single German administrator, who ruled it with a small staff, had to get to his district by travelling 1,500 miles through South Africa, Bechuanaland and the two Rhodesias. Even when, after the First World War, it was mandated to the Union of South Africa, that Government for many years asked the Bechuanaland Protectorate to administer the Strip for it.





The Kalahari, North-western section

The Okavango quickly crosses this enormity of political geography and in a last fit of exuberance or bad temper it tumbles over the fifteen-foot Popa Falls and enters its quieter phase in the Protectorate at its most northerly administrative post, Muhembo, which must be well-nigh the most difficult of access of all posts in British Africa. The river has now entered the upper end of this strange, shallow depression which runs from Lake Ngami north-eastward up to the Zambesi, having taken its leap into it at Popa Falls, leaving all turbulence behind, but keeping its crocs and hippos.

One of the more attractive but rather expensive schemes of development, devised by one of my former students who is now a professor at Johannesburg, consists of putting a barrage at or near these falls and using the 'command' so gained to lead one or more irrigation canals on to the land on one side or another of the river.

Below Muhembo the river begins to be uncertain of its course, with multiplying diversions and anabranches. These are due not so much to the ground-levels as to the silt brought down by the river, and still more to the growth of aquatic plants. It is these plants which are the real cause of the swamps themselves and the ever-shifting channels within them.

Swamp control, or the training of swamp streams to run where they are most useful, is in fact a matter of understanding swamp plants, so as to cause them to grow where they are wanted and die out where they are not wanted. It would be idle to say that water engineers understand yet how to control the reeds and papyrus of the great African swamps, but the time will surely come when they do.

Left to the whims and fancies of these water-loving plants, as they are at present, all the African swamps behave in a curious and almost unpredictable manner. As soon as a river enters a swampy area it tends to split up into a number of distributaries, each competing against the others for a share of the water and resisting, mainly by strength of current, the tendency of the aquatics to block it. The blockages are usually begun by floating vegetation (a *sudd*, it is called in the Upper Nile) drifting into the channel and reducing the amount and velocity of the water flowing down it. If left long enough, it will take root and produce a more effective barrier, which

nothing but a major flood will remove. The vegetation having slowed down the current, more silt or mud is deposited than before, so that the channel becomes shallower and less able to take what water is offered.

On the other hand, a channel which by accident has achieved a clear and fairly straight route will tend to erode its bed wider and deeper, until for a time it has ascendancy over all others. Even so, it is gradually building its bed higher by silt deposits until it is above the surrounding swamp, though it is protected from losing too much water by natural levees or submerged banks. A major flood, or interference with the levees by man or even by hippos, may then cause it to break through and disperse its energy over a wide area instead of in keeping its own channel clear. Some other major channel then acquires a greater amount of water and begins a similar cycle of growth and decay. There is nothing mysterious about this régime, and indeed one can see it going on in miniature in any little runnel after rain where it empties into a puddle and builds a tiny delta across which competing trickles carry water and mud, losing in size by failing to carry down some extra large grain of sand or gaining by having a straighter course or less awkward material to carry. The big difference is that in the swamps the chief agent is the vegetation, and as it can produce very stubborn obstacles to flow the cycles may extend over a long period.

This régime has been followed by the Okavango for countless ages, and has produced some notable effects even in recent times, which at first were misinterpreted, even by such keen observers as Dr Livingstone and Professor Schwarz. Thus when the former, in company with Oswell and Murray, first discovered Lake Ngami in 1849, it was a noble sheet of water. Yet in 1860 Thomas Baines saw nothing but a large pond fringed with square miles of reeds. Later visitors found these reeds either burnt or dried off, until in 1950, as described above, the former bed of the lake was a sea of grass, with forty-year-old trees growing in it. It is true that in 1925 excessive floods produced a lake for part of the year, three or four miles long and half a mile broad. The same thing has happened in 1952, when a fair-sized lake was once more to be seen. The early observers recording this drying-up of the lake assumed at once

that it was evidence of progressive desiccation of the southern continent—in other words, diminished rainfall. This complaint of desiccation is heard continually in the Union of South Africa, but it is based less on any recorded decrease in rainfall than on the observed fact that the rivers no longer run for so much of the year as formerly. We know now that the disappearance of Lake Ngami was due not to the alleged desiccation, but to the blocking of the Teoghe Channel, the westernmost of the distributaries.

There are even reasons given for this blocking, as for example that it was caused by rafts built by a fleeing army across the channel, drifting down to cause an obstruction. A still more romantic reason is that the coming of rifles has decreased the population of hippo, who formerly kept the channel open by walking along the bottom and stirring up the mud, which was then taken further down the river. There is no real need to look to these causes, though they may have been contributory. The fact is that an excessively high flood in any swamp will cause an excessively large number of *sudds*, or floating islands of live plants. These may drift into the unlucky channel and block it in the way we have seen, so that while the same average amount of water is emptying into the swamps it seeks new routes.

The Okavango, at the upper end of its delta, splits into three major distributaries: the Teoghe, going down the west side, the Boro River, going down the middle and the Ngoga on the east. They all soon divide again into a series of other channels, each competing for the water and each acquiring ascendancy for a time and then losing it to some other. At the time of writing the most favoured channel is the Santandadibe, which a few years ago succeeded the Gomoti Channel, a little further to the north-east. This had become blocked, not by *sudds*, but by a curious aquatic shrub known by the same name, the *gomoti*, which grew so thickly on its banks as to impede the current. The Kungare Channel, which in the rainy season causes Maun to be on an island, is only one of many, and quite possibly had its day as a primary channel at one time.

So far the picture is that of any other delta, a triangular area with streams radiating from the apex and ending usually in the water of a lake or the sea. In the Okavango, however,

they end in a channel that runs, against all reason and tradition, across the front of the delta. This is due to whatever caused the long depression in the surface, and the delta is in fact cut short not so much by the river fronting it as by the low ridge of the true Kalahari, which rises some twenty or thirty feet on the other side of this transverse channel.

The channel itself has its own idiosyncrasies. On the eastern side of the delta it is the Thamalakane, which receives the Mohohelo, the Santantadibe, the Gomoti and others, the water turning at right angles to its former course and running down to where it has cut through to form the Botletle River, flowing out on to the main Kalahari. To the west of this junction there is a channel known as the Nghabi, which is a most puzzling one, whether on the map or on the ground. In either case one is not certain whether the Nghabi runs from Lake Ngami to join the Botletle or the other way. It can, in fact, do either, though Lake Ngami is actually lower than the upper end of the Botletle and in a really large flood, such as that of 1925, the water which cannot get down the Botletle runs on, even over rapids, down to Ngami. When the Botletle has emptied itself in some degree, some of this water will return and join it. To say the least of it, rivers which do these things are somewhat confusing.

The picture we should now have of the lower Okavango is of a river which, after entering the Protectorate, disperses itself in a number of major channels over a wide triangular area, any one of which may claim the greater part of the water for a period and then lose it to another channel. Between the channels are long stretches of slightly higher land which in the flood season become islands. These islands are densely wooded in places, the forest giving way to smaller growth as flood-level is approached. Below flood-level there is that sequence from grass down to pure aquatics, such as reeds and papyrus, which is to be found in all African swamps.

The waterways and lagoons support a large number of fish as well as the birds which live on them, while the grasslands and forest harbour game, from elephant down to the small stembuck and including buffalo, which in their turn supply the requirements of the tsetse-fly. The fly appears to occur all over the swamp area, stopping short only near the southern



fringe, where its boundary is only a mile or so back from the Thamalakane.

It is worth recording that the swamp area of the Okavango is actually an island of the tsetse-fly in that there is a ten- or twenty-mile gap between the tsetse zone of those swamps and that of the Chobe swamps. The importance of such a gap is that if and when a really effective antidote to the ravages of the fly is discovered this would be a good area for experiments, since it is isolated from the rest of the fly in Africa. There is a similar 'island' of tsetse in Zululand however, and certainly it would be easier to take a 'census' of the fly there than in the Okavango Triangle.

The seasonal rhythm, in so far as it depends on the floods rather than the temperature, is slightly different from that in those African swamps which are nearer the headwaters of their parent river. The high rainfall of the Angola Plateau occurs mainly in the first three months of the year, and as this water has some 500 miles to go the maximum flood at the apex of the triangle is a month or six weeks later than the peak of the rainfall. The water is still further delayed in passing through the swamps, and so at the southern end—at Maun, for instance—the channel is at maximum flood in June or later—that is to say, in midwinter.

One is hardly prepared to hear of hard frosts in a region so far within the tropics, yet even up at Andara, only 18° from the Equator, the traveller's water-bags may be frozen solid in the morning in the winter, as it is well over 3,000 feet above sea-level. The sun, still high in the sky at midday, sees that such ice disappears by nine o'clock in the morning, but it is obviously a season of delayed growth for all plants.

Out on the Kalahari proper the pans have more or less dried up, the grass is sere and yellow and all the migratory game has come back to the river or has gathered round such pans as may hold water till September. Young grass may begin sprouting then and the browse shrubs also produce young leaves, but the annuals, including crops sown by man, cannot hope to germinate until the first rains come, which may be as late as mid-November.

By September the swamp water has shrunk somewhat, leaving the flats impregnated with seepage water. It is there

that annuals have a chance of making a start well before the rains come, and the inhabitants can sow their grains on the recently flooded areas with some hope of success, the crops having a long growing season in front of them, with rain to take the place of flood water as the latter recedes to its minimum in December or January. At the lower end of the swamps, therefore, the flood is more timely than elsewhere, and in any schemes of development that comparative timeliness must be remembered.

In the natural state, as at present, this 'late' water produces almost thousands of square miles of grass and aquatics. The grass cannot be used with profit to man because of the tsetse-fly, and the aquatics are edible only to hippo and are merely a hindrance to water transport.

When the white man first came to this region, with his twin passions for finding immediate gain for himself and for making the country more fit for habitation, he found people there before him.

In broad outline, the human history of Southern Africa is the story of groups who, being superior in the arts of war, migrated from the north and successively drove their predecessors further south, or to the worst parts of the continent. They were in fact driven to the wall, and if they could not surmount it they were faced with the choice of extinction or slavery. The 'walls' were the desert and the swamp. So we find that in these two types of country we tend to have the earlier, refugee elements which have, no doubt by trial and costly error, acclimatised themselves gradually to their unfavourable surroundings. We may note that this process produced a great mixing of the various tribes, or, if we prefer another way of viewing it, a dilution of the late-comers. Thus a tribe which had started presumably near the Equator in a very mobile and warlike state could gather to itself women and children from the conquered tribes and even turn into settlers and agriculturists. This is roughly true of the Zulu clans and of their offshoots, the Matabele and the Angoni.

In many cases the warrior invaders conquered tribes which were more advanced in culture than themselves and which were indeed necessary to their survival. The warriors could, if they wished, 'eat them up', to use the phrase of the great

Zulu autocrats, but it did not pay them to do so. All this warring and conquering and enslaving was merely an incident in evolution, not really any different from what has been going on amongst animals since the beginning of time. We may quote, for instance, a rather fantastic yet true analogy if we turn to the ant and the aphid in our English gardens. The ant could at any time have 'eaten up' the soft-skinned, vulnerable aphid, but he found that he could enslave it for the purpose of its useful secretions, and he has now made it practically a domestic animal. We are told that he even cherishes the aphid through the winter months under the ground and then transplants it in the spring when we have sown our broad beans to serve as pasture.

The ant does not seem to have lost his energy and warlike habits, but many of the successive Bantu invaders of Southern Africa did. One such case is that of the Batawana tribe, which, when the white man arrived, was the dominant element in the swamps, though probably in a numerical minority. The Batawana tribe was an offshoot from the Bamangwato tribe on the eastern side of the Kalahari, which again was an offshoot from the Basuto tribes on the other side of the present Transvaal. They had conquered and enslaved a more primitive type of Bantu, the Makoba or Masubeia, who were there before them and who no doubt had done the same thing in respect to some earlier groups, including such of the Bushmen as they found there. While the Matabele threats and attempts at conquest kept the Batawana on their toes they were warlike and active, but when the white man began to insert a protective wedge between the Matabele and the tribes of the Kalahari the Batawana seem to have become slack. They continued, however, to persecute their Makoba slaves, though the fashion was coming in of calling them 'serfs' to avoid the too sharp questioning of the white missionary. The ruling caste is still liable to sit back while the serfs do all the real work, and the fact that the Batawana are not really an agricultural tribe will be awkward if and when the white man urges development and control of the swamps.

As in the case of the Bamangwato tribe and their former serfs, the Makalaka, the serfs far outnumber the ruling caste, Captain Stigand in 1923 estimated that the Batawana

themselves were under 2,000 in number while the Makoba were 11,000, and that the total population in the Okavango district was under 20,000. That number includes several thousand refugees from the old German South-West Africa, of whom the majority were the picturesque Hereros—or Damaras, as they are more commonly called. They are cattle people and they

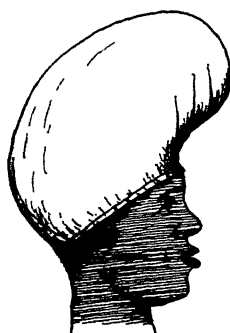


*The curious three-pronged head-dress of the Damara women*

settled to the south-west of the swamps proper, away from the tsetse-fly, and have now thoroughly established themselves. They are tall and well-proportioned and easily distinguished from the Makoba, who are more typically the swamp people—poor at walking, but with a fine development of torso from their constant poling of canoes for their fishing.

The curious three-pronged head-dress of the Damara women is now rarely to be seen in its earlier style, when it was made of leather with the stiff wings or horns sticking up after the fashion of a Viking helmet, and a roll of leather over the brow falling in lappets to each side. So close is the resemblance that attempts have been made to trace its origin back either to Greece or to the Norse countries via the Vandals, who ultimately penetrated to Spain and thence to Carthage. With the helmets the women wore long tresses of hair, most of which was artificial and made from the tail hair of cows. The custom still prevails in an altered form, and now in Ngamiland you

recognise a Damara woman by her tall and upright figure and her Minerva cap made of cloth, under which her hair (and the cows') is rolled up. Variations in this fashion occur among the Ovambo tribes to the west of the Okavango Triangle, particularly as to the wearing of long hair. It is interesting to speculate on whether the connection with the Vandals can



*Minerva cap*

ever be sustained, more especially since it was a Teutonic nation which attempted to exterminate the Hereros in far-away South-West Africa, and very nearly succeeded.

Up to a few years ago one could still, if gifted with sufficient guile, acquire one of the rare leather helmets of the women. The possessor of the only one I know of, who is now celebrated for far bigger things than being my cavalry commander in the First World War, told me how he acquired it. His agent on the deal was the then District Administrator, who knew better than to ask the woman direct, since appearing without the helmet was then to a Herero maiden almost equivalent to doing a Godiva act in Piccadilly Circus. He therefore set to work on the father or husband of the owner with offers of tobacco and other gifts till the man practically robbed his daughter or wife by force and the gainers departed before the fury of the woman could be put into action.

As with the Masai of East Africa, opinions of their character vary very much. Those who have had a great deal to do with them (and, it may be added, those who have had nothing whatever to do with them) generally speak well of them—with reservations, however. The passing trader or hunter or

scientist is more liable to echo what Professor Schwarz said of them: 'The Hereros are a most unlikeable people, quarrelsome, insolent and filthy, but they undoubtedly have brains, and are wonderful cattlemen.'

It is time now to describe the appearance of the swamps, or such parts of them as I have been able to visit.

All travel must be done by boat or dug-out canoe, for which the local name is *makora*. These are made from the big trees which are found more especially in the more northern parts of the triangle, and the favoured tree is that now called the Rhodesian teak. Like most of the African hardwoods, this timber is heavier than water, and consequently a *makora* sinks if it is capsized. Though they require some skill in management, these craft are not as cranky as they look. The Makoba are very clever with them, though they prefer poling them, which is the usual method in the southern parts of the swamps where the water is shallow. In the Okavango itself the water is too deep for poling as a standard method, and there the local tribesmen, the Mambukushu, are just as skilled at paddling with their nine-foot paddles as are their Zambesi neighbours, the Barotse; this is done in a standing position, however crazy the canoe may be. The canoes are, of course, as big as the trees they are made from, but the majority are less than two feet in beam and from twelve to twenty-five feet long. They draw very little water, rarely more than one foot, and their smooth bottoms allow them to pass fairly easily over extremely shallow parts, where in fact the water is half mud.

Seated in such canoes one has an extremely limited vision in the swamp channels, fringed as they all are with reed-like vegetation, most of it over ten feet above the water; so one soon begins to pay attention to the reeds themselves. There is one dominant kind which grows up to fifteen feet in height and looks like a small bamboo or an extra-large elephant-grass. It is found in other Central African swamps, and is known as the *matete* reed or *bango*. It belongs to the family of Phragmites. It is very useful for fish-traps, native houses, and even temporary fences. It may even have a future as raw material for paper pulp.

There is also a much shorter grass known as hippo-grass, which, starting life rooted to the bank of a channel, grows out

from it with roots hanging down in the water, floating on it and tending to clog the channels. Finally, there is the towering papyrus, with its single stems of light green ending in a mop-head of tiny, thread-like fibres which bear the flowers and seeds. Its stems are full of a light white pith which when young has a slightly milky flavour and when mature enables the whole plant to float. The Makoba cut the stems, throw them criss-crossed into a pile on the water, and use them as rafts. These rafts, when abandoned, float down the river and, as we have seen, cause many of the blockages.

Passing up the channels in a canoe, you are hindered by the hippo-grass, sheltered by the papyrus, and often prevented from landing by the dense growth of the *matete* reeds. In fact, once you take to the water you never know when or where you are going to be able to land again. Even though you get glimpses of tall palms or large trees in the distance, surety of comparatively dry soil, there is no approach to them unless you know where fishermen have beaten down a narrow water-way to a landing-place.

For transport you have the choice of a *makora*, with boys to pole it, which can make three or four miles an hour. In a *makora*, however, you are a sitting target for hippos. If you are lucky enough to have a small European boat with an outboard motor the hippos will refrain from attack. Van and I spent a happy Sunday in the swamps in such a boat as the guests of the most important man in Maun, who shall be called Harry like our head engineer.

He transported us and his little flat-bottomed boat in car and lorry for some twelve miles up the Thamalakane till we reached the mouth of the Santantadibe, and there we launched the boat and shipped the outboard motor. At that time of the year, February, the water is very low, and what with going aground in shallow places and the tangle-weed fouling the propeller we only managed to get about ten miles into the swamps proper. At that point we lunched and fished in a lagoon some quarter mile in diameter, innocent of hippo and bordered by large trees with, no doubt, firm ground beneath them, which we could not reach except by a major operation. So we contented ourselves with fishing, at which Harry was an adept, and conversation, at which Van was brilliant, while

I busied myself comparing the reeds and general atmosphere of this swamp with others I knew in Africa.

We were conscious of animal life near, though we hardly saw any. Thus we heard the rush of a group of lechwe antelope, a specialised kind of waterbuck with splayed hooves for their swamp habitat, and caught the distant sound of a leopard's cough, but otherwise we had the swamp to ourselves. We passed through two native fish-traps across the narrow channel, erections of poles and *matete* reeds which, like their abandoned papyrus rafts, often begin a blockage and indeed spoil their own waterways.

On the way back we had minor troubles—losing the way at times, running aground, having to pole, push or paddle when the motor gave up the ghost; but nothing really disturbed Harry's enjoyment of a day off from his manifold business, or the merry tilt of his comic hat, a warrior of much Kalahari service and now a mere cone of grey felt, its edge gnawed into scallops by insects or perhaps by goats—a hat of much experience and great distinction, like its owner.

Struggling with a bare six inches of water on this Santantadibe channel, which Harry assured me was now the premier exit for water from the swamps, one could not help thinking it was a poor finish to the noble Okavango. At the Popa Falls it is half a mile wide, and though much less wide at Muhembo, it should there be seven feet deep at that time of year and running at one or two feet per second. The explanation is very simple when you know African swamps: the noble stream has dispersed itself into a hundred channels and a thousand small lagoons and over perhaps a million acres till nearly all the water has vanished into the air, leaving behind thousands of tons of vegetation, most of which is useless to man.

By August the Santantadibe is itself attempting to be a noble stream, passing down an enormous quantity of water in a channel fairly well defined, but still clogged with vegetation, and all the side channels and lagoons have filled again, ready for another year's growth of plants and evaporation of water.

As long ago as 1908 it was the considered opinion of people who knew the swamps pretty well that this land 'may become capable of the highest cultivation. Some day Ngamiland may



be known as the Egypt of the south.' We cannot say that, forty years after that statement was made, we are much nearer the Egypt of the south.

Apart from the facts that Egypt was one of the earliest centres of civilisation and that the Nile is ten times the size of the Okavango and that its delta is at sea-level instead of 3,000 feet up in the centre of the continent, is there any reason why so little progress has been made? Yes, there are half a dozen reasons, political, social, economic and so on, but we will deal mainly with the one that is the immediate difficulty, the control of the river.

Before you can do anything about controlling a river, especially when it splits into a dozen or more channels, you must know a great deal about it; you must study its régime, as it is called, its habits, its idiosyncrasies, and particularly its levels. That is being done, and a few years hence some definite planning may be possible. But is there nothing to be done until the surveyors have turned in their levels and engineers have examined the foundations and soil experts have analysed the soils, and so on and so forth?

Speaking as one who has none of these expert techniques, yet has made a small study of African swamps, I think there is something to be done, and that is experiment. To make experiments with a vast swamp sounds ambitious and to some it may sound dangerous, but that is what has been done with a certain amount of success in the Bangweulu Swamp of Northern Rhodesia.

The principle behind such an experiment must be to use what might be called the natural inclination of the water and its aquatic plants to work in the direction and with the purpose we have in mind, and the first purpose must be to save the water from dispersing itself over a wide and useless area. It is precisely the same purpose as Professor Wellington has in view in putting a barrage above the Popa Falls and taking a long canal down outside the true swamp area, but, as we have seen, that is a very expensive plan, only to be justified if experiment proves it worth while, as Wellington himself is careful to point out.

Another point to be observed in experiment is that it shall be reversible; in other words, if adjustments to a channel prove

to be harmful, they must be capable of being removed to restore the *status quo ante*.

Now we have seen that in the history of the river its shiftings of channel, in particular, have been caused by accidental blockages or breakings through, most of them directly due to vegetation—either dead or alive—and to floods or droughts of unusual severity. What we should do, therefore, is to control these ‘accidents’ by the cheapest means possible: and those means are the power of water to erode and the ability of tropical swamp plants to block.

Let us imagine for a moment that there is an Okavango Conservancy Board and that it has a Chairman who is of this way of thinking and has, say, £20,000 to spend on this experimenting. What would he do?

He would probably decide that Professor Wellington’s plan for maintaining the eastern channels of the delta and blocking the western ones was the most promising one to experiment with. That would mean helping the Ngoga-Santantadibe branch to grow in strength at the expense of its rivals.

His first job would be to arrange for the aerial photography of the swamp area. He would not at first require formal maps to be made from the photographs, but would use the prints direct. The main use for the prints is to save time—time which can easily be wasted by exploring the myriad small channels which really lead nowhere.

He would then organise a small expedition, of five or six men, who would spend a whole year in the swamps, beginning operations between June and August, which is the time of high water and also the healthiest part of the year. The most important article of equipment would be a powered boat, and if this could be large enough to be used for sleeping in at need it would make a difference to both the health and the comfort of the party. That means a length of forty feet or so and a beam of seven or eight feet, with a draught normally under two feet, and a diesel engine which can also be connected to a small dredge pump for use as outlined below.

There would be an attendant fleet of three or four large *makoras* for exploring minor channels, taking messages and stores, etc. These would need a nucleus of paddlers, but the maximum use would be made of Atco boat-impellers, which

are a form of outboard motor very suitable for navigating weedy waters and have another quite important use in that their noise deters the pugnacious hippo.

If delivered, or built, at Maun in June, the headquarters boat should be able to get up to Muhembo on a first reconnaissance trip, during which soundings and current-measurements would be made and the main diversion channels, leading off the chosen one, where blockages are to be made, studied fairly closely. The blocks cannot be put in until low water is approaching and the expedition would start down again in September furnished with the necessary local labour, as many old iron telegraph posts as can be got, and a dredge pump.

The method of blocking to be used is to plant the steel poles across the channel, strutting them against pressure, and float rafts of vegetation up against them. These do not have to be very thick to enable men to walk on them, and they will not sink until they have rotted. So the next thing is to sink the rafts by loading them with silt dredged from the bottom, the delivery pipe being directed by men on the raft. At low water the depths to be coped with in the bigger diversions will be only a few feet, but of course the banks built on the rafting will have to be about as high as the next flood is likely to reach. The vegetation used for the rafts will be cut at the sides of the main channel below the junction with the express object of increasing the capacity of that channel and, therefore, relieving the pseudo-dyke of pressure. The last thing to do to the dyke is to transplant plenty of *matete* reeds, rooted, on to it, as these grow quickly and will ultimately form a fairly efficient obstruction themselves.

Every small channel cut off, even if but partially, will increase the current in the main channel, giving it more ability to play its part in the operation by eroding its bed. If the water that year is not very low the blocking of the two major channels, the Teoghe and the Jiao, may be beyond the powers of a small expedition, in which case they would be left alone and the smaller diversions lower down blocked seriatim.

The best that could happen from such work is that the chosen channel thus reinforced with water and endowed with a swift current would establish its superiority and get ahead of all the others, a state of affairs which would require a certain amount

of maintenance by the Conservancy Board as time went on. The worst that could happen would be that the blockages would not establish themselves quickly enough to resist destruction at the new flood. Most probably an intermediate effect would be produced, some blockages holding and others going, but a beginning would have been made in controlling the swamp water and many valuable lessons would have been learned.

It may well be asked what permanence could be guaranteed for such a major channel even if it is established, and the answer is that we do not know. Threats to its performance would arise either from rapid silting-up of its bed or from blockages by heavy *sudds* coming down *en masse*, but the safeguard against both is the same, to endeavour to keep the channel as straight as possible and as little invaded by growth from the sides. A uniform gradient is another safeguard, but that is beyond the powers of man.

This digression into something like practical hydraulics, or swamp-control by experiment, is merely intended to show that in the first stages at all events one can do something without embarking on vast planning or ordering hundreds of tons of cement. We will, therefore, not begin a discussion on what to do with the water when we have saved it from drying up or (what may ultimately be the greatest problem of all) on how to induce the local inhabitants to take part in schemes which should benefit them as well as the world outside—their understandable answer being: ‘We are very happy as we are, thank you, and we don’t much mind if the rest of the world is short of food.’

If we have left the reader with the idea that there is potential value in this queer triangle of the Protectorate which suffers from an embarrassment of water, perhaps that is all we hoped to do.



## CHAPTER V

### *The Little Yellow Men*

THE four days at Maun were memorable to the party because of the pleasant people there. The District Commissioner and his wife, with a long experience of the Territory, were fountains of local wisdom, while at the same time they were both star tennis-players. Our host at the hotel was a host in another sense as well, helpful, knowledgeable and so agreeable that we were all charmed by him and his wife. We met at last the golden voice of our six o'clock wireless schedule and found the owner as delightful as her voice. Maun, therefore, did us very proud, but I can think of nothing that we on our side did for Maun, unless it be the two little talks that Van and I gave to the tiny European school. What the ten children from six to fourteen years of age can have made of ten minutes' chat about the Antarctic and about the Far East we shall never know, but our aim was high, whatever our performance may have been.

There was, of course, much to be done. Harry, our officer i/c Transport, had to overhaul the engines, Van was busy organising stores, personnel, etc., for our next venture, Jack had to fly back to Rhodesia to attend to business for three days,

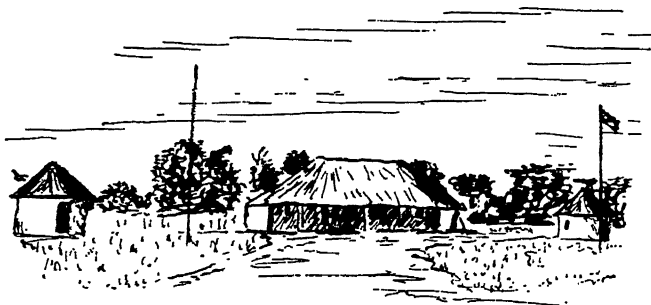
while Brian was happy talking cattle to the few owners we met and looking at such stock as there was near the little settlement.

On this my second visit I was even more struck by the atmosphere of the place, and had more time in which to analyse it. As in every settlement in Africa where a score or so of Europeans make their temporary or even permanent homes, the tone is set by the leading spirits in the community, who are usually but not always the ruling spirits as well. In this case it was certainly so and the D.C. with his wife (who had actually been born at Maun) typified the enlightened, even cultured, and friendly atmosphere we found. As with most administrators in British Africa, his main purpose was to look after the native inhabitants of his district, however backward, however difficult and roguish, however remote. Whatever over-sentimental critics in England may say about British treatment of the African, the best friend the African has is his D.C., and where the African is allowed to judge for himself he knows it. Where he is prompted by alien or subversive agitators, he will, of course, acquire the shibboleths of that tribe and invent or expand complaints.

In Maun as in every other district the D.C. has to be a model of discretion and diplomacy, constantly balancing the claims of his Batawana, his Makoba, his Damaras and even his scattering of Bushmen, all with somewhat different viewpoints and widely different customs. He has to dispense justice, of which the most difficult part is to sift evidence, given so often with utter abandon as to truth and under a firm conviction, held long before Hitler gave it public announcement, that the bigger the lie the more effective it will be. I think it was this D.C. who told me that if you doubted the truth of an African witness it was no good looking at his face, but if you looked at his feet his toes were liable to be restless in proportion to the magnitude of the lie. The African, in fact, has a poker face, but not poker feet.

The D.C. must also move round on tour to see his people in their villages, and that is delightful to him, but difficult now that he is in such close touch with superior authority that half his time is taken up with reports, returns and applications for permission to do something he knows, but has to persuade H.Q., to be right for him to do.

His main office was a tiny *rondhavel* (a round hut) of native-made brick only large enough to hold two or three people at once; his courts and his parades are held on verandas or open spaces covered with thatching. But to detail his many duties would take pages, even without mention of such things as

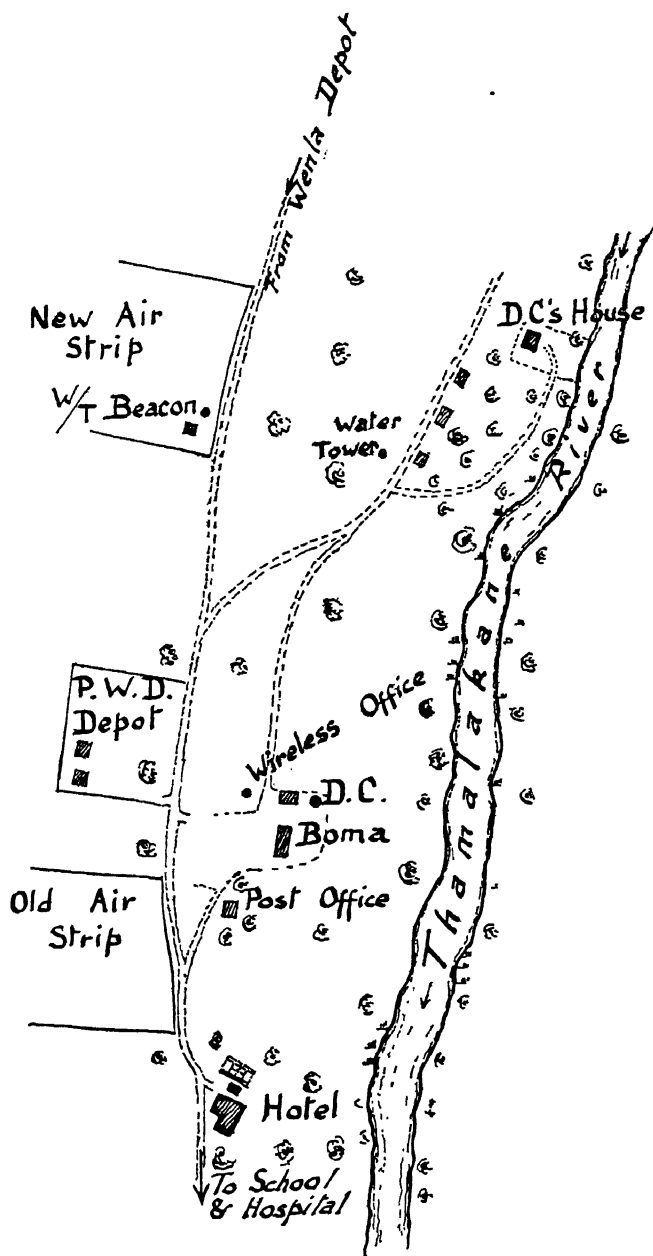


*The office of the D.C. at Maun*

having to assess the motives and honesty of wandering whites such as we were, asking questions and putting up projects. Nor can we mention the manifold unwritten duties that fall to his wife.

In such communities there is usually, besides the official leader and arbiter of behaviour, the D.C., a quite unofficial leader who sways behaviour by reason of his character and position. At Maun this rôle was played by undoubtedly the quietest but also the most intelligent resident, the same Harry who took us into the swamps and who as host at our hotel was at the centre of most activities. Gifted with foresight and with a boundless energy, proof against even the most enervating weather that Maun could produce, he was probably the soundest man of all with whom to discuss development, but also the most reluctant. He knew well enough what could be done and should be done, but he would resolutely refuse to lay down the law or even advise unless he was addressed positively and privately.

I have taken enough liberties already in describing these people, and my only excuse is that readers ought to know what manner of people are upholding British traditions in this High



Sketch Map of Maun



Commission Territory which has been in the news lately so unhappily and with such a wealth of misquotation and misrepresentation.

There are others in that community, however, who should be in the picture, and whose like is to be found in many other parts of Africa. The matron of the hospital, for instance, dependable, experienced, and in this case artistic, a fit opposite number to the matron of the large Lobatsi hospital mentioned in the first chapter, who is so efficient that she received an honour from His late Majesty, yet so friendly and merry that she is nearly always addressed by her nickname.

It would be wrong to suggest that there are not many stones of less lustre in this community, some of them merely rough diamonds, some of flint, and even some of the commonest clay perhaps, but I should like the impression to remain that Maun is fairly typical of such outposts of Empire and a community in which the future of both Africans and Europeans is safe for both black and white. If the inhabitants insist that I have viewed them through roseate spectacles, I can only retort that it was their kindness that coloured them.

It will be understood from this preamble that the Mission left Maun with regret and with many backward glances of regard and affection. Our way was south and west to the less-known part of this little-known territory, a part which could be grim and forbidding at certain times of the year, but which usually smiled on us, organised as we were by Van to meet any turn of fortune, good or ill.

Our party was now reinforced by two new colleagues. The Director of Veterinary Services was very welcome to us both for his knowledge of all that was necessary for animal welfare and for his good fellowship. A former resident of the Ghanzi District, Johnnie Marneville, joined us as guide and jovial companion. He had a deep knowledge of the locality we were about to pass through, and has already appeared in several books as a farmer who was always ready to help the passing traveller.

The first 150 miles was at least plain travelling, for many trucks and an occasional car move between Maun and the scattered area of farms known as Ghanzi, using the route first travelled, with great difficulty, by Andersson, Chapman and

Baines, as well as many later and less reputable people. The route leads first through the forested strip of land just on the swamp side of the Thamalakane River, here running between high banks of limestone or calcrete down to its right-angled bend where it becomes the Botletle and boldly enters the true Kalahari. The large trees have impressed every traveller coming from the south, especially the mowana or baobab trees, which Livingstone rather curtly calls 'those upturned carrots'. There is one such baobab, lying a few miles to the east of where Lake Ngami used to be, which has had fame thrust upon it by some administrator of the past in the form of a metal plate attached to the trunk. This bears, in firm lettering for all the illiterate natives of the district to make of it what they can, the distances in miles from that spot to every likely and unlikely place the traveller may be bound for, ending with 'LONDON—7,040 miles'—that last betraying an element of nostalgia only too easily summoned by a temporary exile in Ngamiland. So every new traveller must stop and walk the fifty yards from the track to see this token of civilisation.



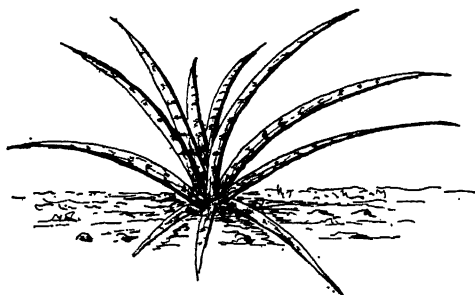
*The famous baobab*

regardless of the strong growth of wait-a-bit thorn bushes which has sprung up since first I paid my homage to the tree.

Along this forested track there are two other features which command attention. One is a game-proof fence of high poles and strong wire erected at great expense to keep the game, and in particular the buffalo, from bearing the tsetse-fly of the swamp area on to the grazing strip near the river, which is

also the only regular route for Ngamiland cattle on their long trek north to the abattoirs at Kazungula on the Zambezi. The other thing to be noticed is a prodigious crop of that curious and rather handsome member of the aloe tribe known as *Sansevieria*. Like its larger cousin, the cultivated sisal, it is very bitter, is armed with a formidable spear at the end of each leaf, and furnishes a valuable fibre. It is currently reported that it is used as a food by the black rhinoceros, which if true would go far to explain that animal's reputation for toughness and acerbity, not to mention its prickly temper.

Every land has its own humble plant of infinite value to the inhabitants for tying things, a requirement that forced itself on primitive man as soon as he began to fasten things together,



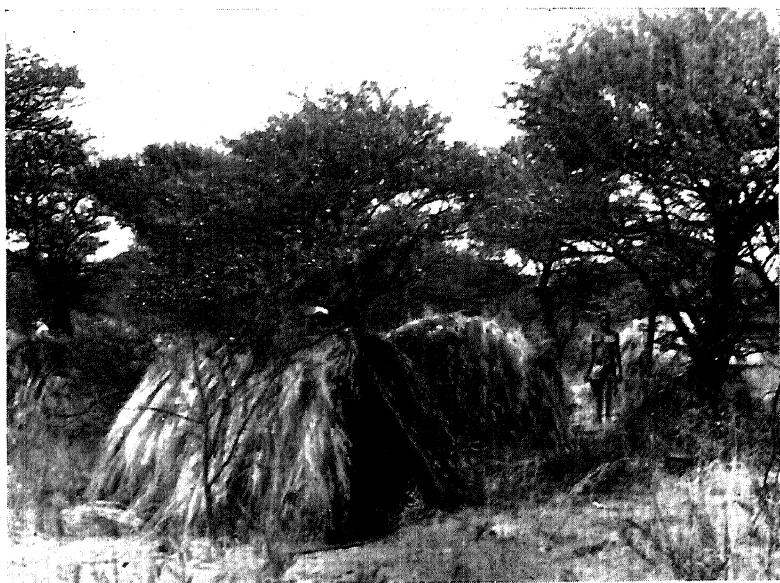
*Sansevieria*

but the different plants used are distinctly interesting. In most of Central Africa the inner bark of the *mpasa* tree is the almost universal tyer and binder, with the curious property that when dry it is rather weak, but when wet is very strong indeed. In Nyasaland it is the leaves of a low, bright green palm which the woman uses to bind her pile of faggots to carry home for her fire. In Uganda, again, it is the lower part of the papyrus stem which, when twisted, serves for all splices and bindings. So in Ngamiland this delicately marked but forbidding aloe flourishes so profusely that in one place we had difficulty in finding a camping site where we were not liable to sit on a threatening spike of a plant of *Sansevieria*.

The road to the former site of Lake Ngami took only an hour or so, and we pulled up for a breather at the former site of Toteng, the Batawana capital of a century ago, in the days of Livingstone and Chapman.



9 Young bushmen on a salt-pan



10 A bushman encampment



11 Bushmen falling off the lorry  
See page 123



12 Bushmen waiting for cigarettes

At that time their ruler was the renowned Lechulatebe, who could change at will from a noble patriot defending his tribe from the Matabele to the fawning, begging and utterly cruel dictator who so bothered the early traders who later came within his reach. As a result of those Matabele raids and those of the Makololo, the capital was shifted later on to Tsau and even further up the then active Teoghe branch of the Okavango. But no one has told the geographers of the change, and the name Toteng continues to this day to be writ large on the map.

Being pestered by a memory which remembers place-names and forgets all else, I was rather anxious to see the Toteng of the maps and when, on my first visit, we should have come to it and my caboose had at last caught up the leading one with our geological friend, I shouted out to him, 'Where is Toteng?'

'Toteng? Oh, we passed it three miles back. Didn't you see it?'

'No; I didn't. I saw nothing but a small boy herding a flock of goats.'

'Yes; that's it. That's Toteng,' said my friend, and changed the conversation to something more interesting than dead-and-gone native cities—for city it must have been by African standards in 1860, when it had 400 huts and perhaps 3,000 inhabitants.

From near that point on this second visit we were really travelling for forty miles over the dried-up bed of the famous Lake Ngami, the search for which first made Dr Livingstone into an explorer. Except for its very gradual slope, the land bears little evidence of the lake-that-was, as the scattered trees have now been there for over sixty years and the humus left by the lake is now well-nigh used up by producing, each rainy season, the lush grass that makes that region the centre of the native cattle industry. It is here that the Damaras, escaping from the no-quarter war with the Germans in the early years of this century, have settled, and they have improved so much on the cattle-management of the former owners that they are now the dominant people in fact if not in name.

To us, passing through the village of Mochabeng just off the flatter and more clayey part of the lake bed, there was

nothing more Damara-like to be seen than their Minerva caps and the widespread horns of their cattle. Span of horn is still, to the Damara cattle expert, the acme of breeding in his stock, and very impressive it is to see an ox carrying horns up to eight feet from tip to tip. William Oswell, Dr Livingstone's companion, was very interested in these long-horned cattle, and purchased a three-year-old ox which stood over eighteen hands in height and had horns measuring thirteen and a half feet round the curve from one tip to the other. He had intended to take it to England alive, for the Zoo, and for 800 miles of the way back they cleared trees for it to pass. Then they had to kill it, for a very curious reason. As shown in the sketch, the horns had a pronounced downwards curve, and when they left the long grass of Lake Ngami for the short grass of the eastern Kalahari its horns touched the grass before its nose and prevented it from getting any food. So the



*Record horns from Ngamiland*

ancestral home in England got the horns and the Zoo lost a remarkable specimen of long-horned cattle.

I have mentioned in the first chapter the race we had across the bed of Lake Ngami as a result of a terrific thunderstorm. We came 'ashore' on the safe sand near to Bodibeng, another name which crops up in early travellers' tales. It was here that we first met real rocks, other than the calcretes, after hundreds of miles of sand, for we found ourselves camping on a low ridge of very ancient slates and quartzites, just above a miniature beach of pebbles derived from them—a reminder of the height to which the former lake once reached.

Except on the hills, the Kalahari sand covers these rocks, and that is probably why the underground water supply is so much better in the Ghanzi district than elsewhere in the western Kalahari. Most of the older rocks are impervious to water, as compared with the sand, so that when the rainfall—which averages from fifteen inches a year there—has sunk quickly

through the blanket of sand it is held up by the rocks within reach of a well less than forty feet deep. When the sand is much deeper the water-level is usually beyond well-depth and only to be reached by a bore.

Only a few miles south of the Lake we actually had a view of several hills at once, a rare sight in the Kalahari. To the east there were the Gwebe Hills, while to the south and ahead of us there were two dome-shaped hills with the musical name of Mabalamapedi.

As it was the rainy season, we saw a few pans or ponds of water in their vicinity, as well as some game, but we pressed on to get outside the Batawana Reserve, which is bounded here by the line of latitude 22°. After crossing this we were on Crown land and in the vague district of Ghanzi, a native name for one of the more permanent water-holes, but now used for the whole area. (The 'G' is almost silent, as in 'gemsbok', so that it sounds more like 'Hanzi', with just a suspicion of the guttural which Scotsmen use in the word 'loch'.)

Ghanzi is a settlement of about a score of farms, so scattered that it can hardly be called a community, and its origin is due to the foresight of Cecil Rhodes. In the early nineties of the last century he saw in the vigorous policy of colonisation being launched by the Germans in South-West Africa another threat to his 'road to the north', already hemmed in by the Transvaal Boers on the east of the Kalahari. He wanted to put a kind of buffer settlement near the official boundary between the Protectorate and the German colony, without making it an actual military or even official post.

So he persuaded a group of Boer farmers to trek up to Ghanzi with their families and stock and take up land in the Boer fashion—that is, every farmstead well away from its neighbours. They had a very hard time both in getting there and in staying there, and not all did stay. We were lucky enough to meet one of that pioneer party and his wife, now in their eighties and looking rather frail beside their strapping, middle-aged sons. Nevertheless, they stood bare-headed in the sun for half an hour while Van talked to them, interpreting for me. As with all the early homesteads of the Boers, the house was a solid structure, and there was a large gathering of native followers with wives and children, who seemed to share in the



work and in the food from their mealie fields. They included a few semi-Bushmen, and the basis of their employment seemed to be that of willing servants, kept but not paid, to a beneficent master.

There has to be a cash basis somewhere in the system, for the farmers have to buy wagons and rifles and other consumer goods, and the economy of these farms is as interesting as their origin. It seems almost incredible, but what they are doing is producing cream for the Capetown market, though, by the route it must take, Capetown is some 1,500 miles away.

The idea of a dairy industry in such a place is rather startling, and only modern transport makes it possible. Each farm has a tall, rectangular erection made of burnt brick or limestone; this is the cooler for the cream when separated, and it is kept cool by a constant wetting from water allowed to trickle over the structure. It is in fact a giant water-cooler, and in those hot and windy places serves well enough to keep the cream sweet until, every few days, an enterprising firm sends a lorry with a refrigerator body to collect from each farm. The lorries take the cream about 200 miles to the narrow-gauge railway at Gobabis in South-West Africa, whence it goes in refrigerator cars all the way to Capetown. It is one of Africa's strange contrasts that one can be nearly at the heart of the Kalahari, usually considered almost inaccessible, and yet, if one is a cream container at all events, can get to Capetown in two or three days. The Ghanzi district is for this reason less remote than, say, some places in Scotland, such as the Western Isles.

Such an incongruous industry is possible, of course, only if the primary producers of the cream are simple in their needs and Spartan in their mode of life, and that is precisely what these Afrikaner farmers are. It also depends on having wide acres and little more than nominal land-rent. As a side-line there are the bullocks which can be trekked up to Northern Rhodesia for sale, or, when the rains have been good, trekked across the Kalahari down to Mafeking on the route we were about to follow. This was a precarious trade, however, and it is the cream with its small but steady return which makes life possible for this community, which, as in a few remote parts of the Union itself, is leading an existence modelled on examples it finds in the Old Testament.

This description of cream lorries and contacts with Capetown will give the reader the impression that we were certainly not 'in the wilds' and that farming in this part of the Kalahari is a more or less comfortable existence. That may be true for the hardy folk who are there, but not for others, who could never endure the uncertainties of the rainfall, the threat of lions, or the very real danger, until recently, of attack or raids from the wandering tribes of Bushmen, Hottentots and Damaras.

These Boers have a way with lions that should be known, and nowadays their depredations are slight because of it. A few days before we reached Ghanzi a lion had killed a bullock at one of the farms, which, of course, are all innocent of fencing. The neighbouring farmers, five in number, got their horses, their rifles and some biltong and set off on the spoor of the lion with the help of a Bushman tracker. They followed it for four days, far outside the farm district, until they had killed it. They work on the well-known habit of lions that if one of their number is killed the rest of the family or pride will leave the district, but they must be followed relentlessly and *à l'outrance*, and you can trust a Boer for that when he is roused.

The Grand Old Man of the Ghanzi district, and reputedly the wealthiest, is not an Afrikaner, however, but a New Zealander, who stayed in the country after serving in the Boer War. He began in a very small way in the south of the Territory as a well-sinker and trader, but long ago he and his brother reached Ghanzi and settled down to cattle-raising. No one could live in the Kalahari for fifty years without having scores of adventures, and Mr Burton is one of those men whose lives are one long epic, which, however, will never be written, as he is far too modest to talk much of it and would not dream of writing it himself. We called at his farm to meet him, but he was away, and I felt greatly honoured when a few days later he called on me at a police camp some distance off. We talked while daylight lasted and I had the privilege of hearing a few of his early experiences. It was he, with 'Bush' Macintyre, an Australian, who in their first sally into the real Kalahari were supported by one old Bushman woman for ten days while sinking a well. Her suckings kept the two white men and their four donkeys from dying of thirst until their labours had brought them to water in plenty. This story

fails of its full savour unless there is a full explanation of the 'suckings', which also displays the resourcefulness of these little people whom we are about to meet.

The sucking-wells of the Bushmen are mentioned by Livingstone, though they are now called 'sip-wells'. It seems to be the prerogative of the old woman of the clan to carry out the procedure, which is as follows: She looks round for a certain low shrub, which was pointed out to me by Johnnie, and close to it she scoops out a hole in the sand to arm's depth. She then takes a hollow reed and wraps grass round one end of it, which she stands in the hole. All the sand is then put back,



*Bushman woman filling ostrich eggs by  
means of a Sip-well*

stamped down and left for half an hour or so to take up the dampness of the surrounding undisturbed sand. She then begins to suck hard at the reed, her cheeks almost meeting with the strain of producing the necessary partial vacuum under the sand. After some time the pressure of the atmosphere will have squeezed the film of water round each sand grain to the space filled with grass and thence up to her mouth.

She then inserts a second but shorter reed into her mouth, the other end being in an empty ostrich egg-shell. The subsequent procedure is simply that of an ancient and wheezy human pump, sucking up the water on one side of her mouth and squirting it down into the shell on the other side. This is a well-known technique to them, and in the case mentioned it

must have produced several gallons a day, yet I have no reason to doubt the story.

Our real concern was not with the farming area of Ghanzi, but on beyond it and its water wells, so we called only at the three farms which happened to be on our route and made straight for a place known as Van Zuyl's Cutting. Van Zuyl was a noted Boer traveller in these parts at the end of last century. Later he penetrated to the border of Angola, where at Andara he was murdered by the very unpleasant tribe under the chief of that name. His wife, with a young baby, realised that there was no escape for her from the worst of fates, and at night she summoned her captors as close as possible to her, where she sat with candle in hand by an open keg of gunpowder. By throwing the candle into the cask she blew up her enemies, her child and herself.

We had some difficulty in finding Van Zuyl's Cutting, which is a rift in the rocks some ten feet by thirty feet and has a spring which rarely fails. We camped half a mile from it so as not to disturb the animals which depend on it, including the lions, one of which we saw next day in broad daylight.

The object we had in going to Van Zuyl's Cutting, which is not on any regular route, was to make a journey (what Van called a *sortie*) towards the south-east to view the country there. This direction led us towards Lephepe or Molepolole, 200 miles away across the Kalahari. This stretch has been crossed a few times in the rainy season, as the scattering of names on the map will show, by means of camels or motor-trucks. It was not likely ever to be a route, but we had to have a look at the grass and the indications of water from the point of view of ranching. So while the heavy lorries stayed for two days at the Cutting the light truck took some of the party about eighty miles to the south-east for a 'look-see'. Their tale when they returned fitted in with what we thought of the vicinity of the Cutting—namely, pretty good grass and browse from shrubs, but no surface water. In fact, it was not to be thought of as cattle country unless underground supplies could be found.

Near our camp there was a string of wide grassy pans, harbouring many springbok, a few ostriches and an occasional

gemsbok, and we had chosen our camp on a sandy ridge about a mile south of the larger pan.

While there we had a more or less continuous display of the kind of rainfall the Kalahari indulges in—display being the right word because it consists of a series of thunderstorms, intense but narrow in diameter, which came in procession from the south and east and seemed to follow the line of the pans. The lightning was superb, the thunder impressive, and the cloud effects were fascinating. While it lasted, the downpour of rain was heavy, but each shower was over in from ten minutes to half an hour. There was a procession of some twenty of these storms during the day, though only one came over the camp itself. It drenched us very thoroughly for twenty minutes and produced possibly almost half an inch of rain in that time. The puddles of water which filled our wheel-tracks, however, had sunk into the sand within three minutes of the rain stopping.

This exhibition of Kalahari rainfall was very illuminating in more senses than one. For instance, it threw light on the uncertainty in any average rainfall figures for the Kalahari. The figure which by deduction applies to that area is about ten inches per annum, yet by the behaviour of those storms on that one day it is obvious that on the line of the pans the fall might be up to ten times that on the sand ridge where the camp was placed.

The rainfall is thus intensely local, and one pan may have twenty inches in any one year when the surrounding areas have only five or less. The moral is that one must find the pans or the line of pans which are favoured by the storms.

We were now in the area of the little yellow Bushmen, and as the name has been used so widely all over Southern Africa we should specify more closely concerning them.

Their colour is perhaps nearer that of burnished copper than yellow, but in truth they are so often coated with dust that the colour is somewhat variable. The solitary Bushman looking for honey whom we had met in the northern section was the tall black type, a Masarwa, who, though a complete nomad, living by hunting and gathering, seems to be so different from the little yellow men that he must have Bantu blood in him. It is easy also for a stranger to get confused between the Bushmen and the Hottentots, both of whom were ranging over the

southern part of Cape Colony when the Dutchmen first settled there. Then as now the Bushmen were entirely nomadic, while the Hottentots kept goats and cattle and occasionally indulged in casual agriculture; but as they are both of distinct reddish-yellow skin and both use a click-language it is natural that they should be sometimes mistaken for each other. Both have been pushed out of the south-west corner and have been mixed with 'Cape Coloured' people—that is, hybrids who, under the names of Griquas, Korannas, etc., have figured in the early history because of their superior intelligence, their possession of arms and their raiding tendencies.

Our first meeting was with a Bushman woman, as we were returning from Van Zuyl's Cutting. She was dressed in a single skin cloak, in the hood of which she carried a small yellow baby. I was called across by one of our party and urged to take her photograph, but her proportions were so odd that I declined the invitation, assuming that she was 'in an interesting condition'. The others, however, assured me that it was her natural shape, and they even found out that she had done herself proud that morning with a bag of meal. I therefore took her photograph and tried to believe the story I was then told about how much a Bushman can eat at a sitting. The record so far measured seems to be 58 lb. of meat within twenty-four hours by one old gentleman, whose own weight must have been under 100 lb. to begin with. It is no wonder, therefore, that the older men, in particular, have very elastic stomachs, with creases running vertically instead of horizontally.

The same day we arrived at the police post in the Ghanzi district, and were given permission to pitch our camp alongside a windmill and tank belonging to the post. The white police officer was very friendly and insisted on lending us his ten prisoners to help us in pitching camp. The whole batch turned out to be Bushmen, who for various offences, always concerned with cattle, were serving short sentences of imprisonment. I was, of course, immensely interested, but could have hardly any communication with them. My first impression was that they were far better-looking and indeed pleasanter in every way than their two tall guards, not in

uniform, who were Bantu or possibly Damaras. The prisoners were wearing jerseys with a red band, and trousers which were far more adequate than those of their guards. They looked rather sad, as though they had fallen on evil times and hardly understood why, but they were eager to help and chattered away in their clicks and gurgles and snorts, interested no doubt in the white man's camp-gear, which was so clumsy compared with their own minimum requirements. Van and I were anxious to reward them for this small service, and when they had done their half-hour's work we went across with some black-twist tobacco and gave a stick to each of them. They were simply amazed at this gesture on our part, but even so they hardly broke formation in coming forward to take the gift. We are still wondering whether those sour-looking guards got the better part of the tobacco.

We were told (as indeed I had heard of the Masai tribe in East Africa) that it is impossible to punish these nomad peoples with a long term of imprisonment, since they pine for their freedom and die on their gaolers' hands. This group certainly looked well enough, but one could see they longed to get back to a life dependent only on their poisoned arrows and their amazing skill at finding sustenance where a normal man would die of starvation, if not of thirst. I was, therefore, quite glad to forget this sober squad in prison garb when a day or two later we started out southwards once more and met their friends in the wilds. The first meeting will serve to describe all the subsequent ones.

The noise of our lorries would, of course, warn anyone within half a mile of our route that the white man was coming, with his petrol smells and metallic grindings, but also with his tobacco. So our first glimpse was of little yellowish figures darting through the bush towards us, each stopping by a thicket to hide his weapons of offence and coming up rather shyly to the lorries. There was no real fear on their faces, but they certainly were not quite sure of our attitude until we held out black twists of tobacco which had been brought specially for such an occasion. They were just as happy with cigarettes, which they smoked in an extraordinary fashion. The first man would take about a dozen deep sucks of smoke right down his lungs and then pass the cigarette on

to the next. After a minute or two smoke would begin to appear from his mouth and nose and his face would show every sign of imminent convulsions, his eyes going red and his chest heaving with the graveyard coughs which he could not entirely suppress. Probably no great damage could be done by my best Virginia cigarettes, but they go through the same process with the foul tobacco made by the Bantu and with the very



*Bushman smoking  
a cigarette*

harmful *daggar*, which is a sort of native hemp. Early travellers describe vividly how a smoking bout resembled a series of epileptic fits.

One of our boys could make something of Bushman language, and so could Johnnie, so we could make ourselves more or less understood, and it was our practice to offer a helping hand in whatever way seemed possible. The best way of all was to give them a lift to the next pan, where we would shoot a springbok for them. When this was first suggested they agreed with alacrity, but were rather nonplussed as to how to get on to the lorry. This was natural enough, for they were evidently not quite sure which parts of it were safe to tread on and which were not. Some of them had probably never seen a lorry, though one or two generally pass that way in a year. What did astonish us, however, was that when we reached the pan, after they had jolted along with no signs of apprehension, they were unable to get off. In fact, it became our custom to gather round to watch them trying to manage the four-foot jump to the ground. They almost always fell, and several just threw themselves anyhow into the air, coming down a good wallop and being greeted with shrieks of laughter in which the victim joined. It was, in fact, a Kalahari entertainment.

From one old gentleman's performance it was plain that



they had little notion of the simple mechanics of jumping. He had straddled one leg over the side of the lorry and was looking down at the ground as if rather peevish at the wide gap between it and his foot. He was receiving much clicked advice (or it may have been jeers) from his companions, but suddenly a broad grin crept over his face as he saw the solution of his problem. Obviously he was starting off with the wrong foot, and with great deliberation he put back that leg, turned round, and put the other leg over. Great was his dismay that this too was four feet short of the ground. He therefore imitated his predecessors, flinging up his arms and falling on to his ample posterior.

I was intrigued enough to try to find out via the interpreter how it was that they had no idea how to make a little jump of four or five feet. It took some time even to make them understand my questions, and I can only give the gist of their answers. They were saying in effect, 'Why should we be able to do this awful feat of jumping on to hard sand? We have never done it before and it seems a rather useless accomplishment.' Puzzled at this attitude, I suggested that they must have climbed trees in the past and had to jump the last few feet from the branches. At this suggestion they were highly amused. 'Why on earth climb trees? That can be no profit to any self-respecting inhabitant of the Kalahari.' Again forced to prompt, I suggested that they might like to see further than their five-foot stature permitted and climb trees to look for game. This suggestion of the idiotic white man really brought the house down. With roars of laughter, they explained that they would never dream of climbing trees to look for game, since the game itself writes in the sand just where it is going, why it is going, and how long ago it went. At that point I gave up the unequal debate and decided that here was a type of person who just would not be seen dead climbing trees.

We were to give them yet another instance of the futility of white man's magic when we were changing a wheel on one of the trucks. For generations the Bushmen have seen wheels on ox-wagons and they must have come to connect them with movement over the ground. In this case two of the younger Bushmen were watching Harry put on the spare wheel and

seemed but mildly interested, but when he spun the wheel round with his hand their eyes nearly fell out with amazement and they burst into 'Wows' and excited speech to each other. I asked the interpreter what they were saying and he explained that by all the laws of Bushman knowledge the wheel should have 'run away' when it turned round. The white man could make it stay in the same place, but what was the use of that?

Drawings cannot do justice to these people, but I feel I am not alone in thinking that they are more pleasing to look at than many of the black tribes, more intelligent concerning the things that they do understand, more honest, and even more law-abiding; that they are, in fact, very pleasant people and complete masters of their environment. They ask only to be left alone to enjoy their mode of life. As it is, they have been constantly misunderstood by the white man, in just the same way as is the Australian blackfellow every time the luxurious trans-Australian express crosses the Nullarbor Desert from Perth to Adelaide. At a few of the railway stations there, which are sixty miles apart, blackfellows are to be seen clad in awful rags holding out their hands to the passengers and murmuring indistinctly, 'Gib it tickpent,' or 'Gib it baccy.' The average passenger gives the sixpence or the tobacco and turns away disgusted, exclaiming at the dreadful squalor and the low standard of civilisation which the aborigines exhibit. The passenger is quite wrong, for the real facts are much as follows. The blackfellow, who has probably walked three or four hundred miles from his usual hunting-grounds, meets with his brethren who live near the railway, and they tell him that the white man will be angry if he does not cover his magnificent nakedness with the rags which they offer to lend him. They tell him, further, that the white man has tobacco and sixpences which can be had for the asking—just as amongst their own tribe if a stranger walks up to the camp and behaves decently he is automatically handed his share of kangaroo or emu and told to make himself at home. He feels no shame in asking for what any visitor to him would get without asking, and he no more likes the rags that convention hands to him than we should like a native's cast-off headdress. Both the blackfellow and the Bushman are probably much too polite to say what they think of us, but one cannot help thinking that it may be

even worse than what we, with our shallow reasoning, think of them. If truth be told, they are far more the captains of their destiny than we can ever be, since they survive with perfect happiness the hardships and the apparent scarcities of two of the most forbidding parts of the southern hemisphere.

In features the little yellow, slant-eyed Bushmen are extraordinarily Mongoloid, but this likeness ceases very suddenly with the hair, which is very peppercorny, with tight little curls widely separated. A few of them grow beards, or the beginnings of beards, but in general their faces are very clean and smooth. We have spoken of the distended abdomens, which are in strong contrast to the thin legs surmounted by large but not gross buttocks. Yet they are very fast runners and they cover the ground with a curious action, the torso held perfectly upright and the legs twinkling along with a high lift of the knees. Their endurance in travelling far and fast is, of course, phenomenal.



*An old bushman*

Like all hunters and gatherers, they reduce their personal belongings to a minimum. Besides their weapons, they possess only a skin bag, which they carry slung over one shoulder, and this contains the sum-total of their 'extras': usually a needle of bone or iron, two sticks for making fire, a knife, often made from a hoop-iron or an old wagon-tyre, and some of the ingredients for arming their arrows with poison. A spear seems to be rather rare and in any case would have to be obtained by barter from the Bantu tribes.

Their temporary camps or *werfts* are nothing more than long grass piled over a bush or a very rough arrangement of sticks.

Even in the rainy season they seem to be satisfied with a minimum of shelter from the weather. Their clothing consists of a triangular loincloth of the minimum proportions, and a loose skin, which can hardly be called a cloak, hanging over one shoulder. Since severe frosts are common in the Kalahari in the depth of winter, their resistance to changes of temperature is paralleled only by the Australian blackfellow's. Both these peoples lie very close to fires on cold nights and the older men are sure to have scars of burns from rolling over into the fire.

Considering that these people live where every second bush is covered with thorns, it is wonderful that their skins are otherwise clear and unscarred. This interested me so much that I was rude enough to look closely at their flanks and handle their skin to see how it could be. It is obvious that they have a much tougher skin than the ordinary human, and though it shows temporary marks of the thorns as a myriad white lines on their ribs and legs the thorns have never really penetrated it.

These people are entirely independent of any outside culture or influence. Though they are now aided by odd tins and an occasional knife traded for skins, they do not depend on these in any vital way. It is therefore of interest to inquire by what means they live where no other peoples could. The plain answer is in the word 'woodcraft'. Their basic food is really vegetable and mostly in the form of underground tubers, some of them quite similar to yams, which to the visitor do not betray their presence in the dry season by leaves or any other obvious sign, yet which the Bushmen find with comparative ease. The same applies to their water-supply, which for much of the dry season is almost entirely drawn from the *tsamma*—that is to say, from various types of melons. These melons depend on the rainfall, and in a run of poor seasons may become very scarce. The Bushmen, however, seem to know where they are to be found, and there does not appear to be any record of a Bushman dying of thirst. /

Animal food, of course, is their luxury, and each type has its own appropriate season. The food will vary from white ants and other insects through frogs and others of the reptile tribe to the larger game, for which they depend on traps and poisoned arrows. We have referred to their uncanny skill at

spoor, though it may not be quite so amazing as that of the Australian blackfellow, who has more rock and less sand from which to interpret the movements of game. The mere following of the spoor in the sand is simple enough, and the Bushman will follow it at a trot; what is only to be learnt by a lifetime's experience is the interpretation of the spoor. The Bushman seems to deduce exactly how long it is since the animal passed, the rate at which he was going, his probable goal, and much else from the tracks he has left.

The Bushmen's perceptions are naturally extraordinarily keen, especially sight and hearing. All travellers will give evidence of how they can see and hear game long before the white man. Their value as guides is well known, though it is possible for a Bushman to get lost in country he is unacquainted with. There seems no need to postulate a sixth sense, that of direction, especially as there are instances in which a guide has been totally wrong even when the stars are shining. One is tempted to regard their ability to find the way as due to a superb visual memory rather than to any instinct.

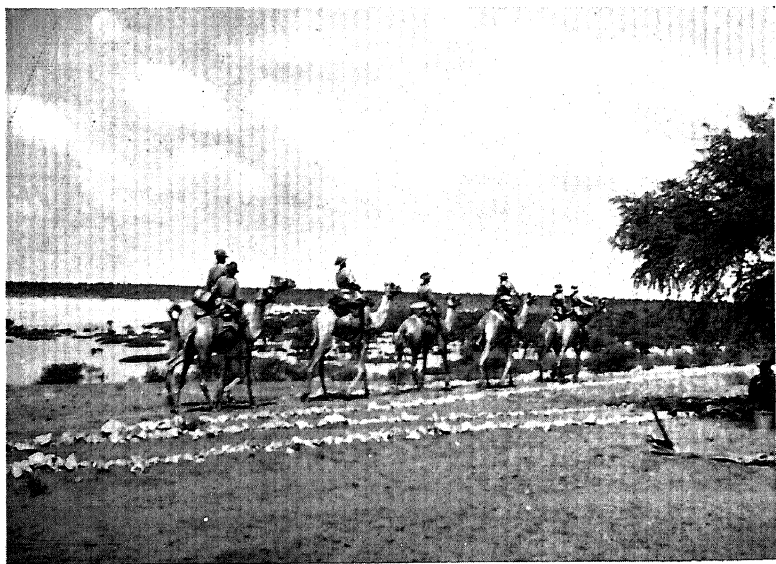
It is probable that the Bushmen have always been of friendly intention, and this in spite of the events of the early years of last century, when they committed such depredations on the cattle of the Boer farmers that they were proclaimed to be vermin and shot down as such. In the beginning no doubt the Bushman could not understand that a tame ox was not game; then when he was persecuted for killing such easy prey he retaliated. It must be difficult for any people who have practically no sense of ownership, except of weapons, to accommodate themselves to the very specialised ideas of property that mark our civilisation.

Now that these people have had some forty or more years of British protection, there seems little fear left, or only that of an uneasy conscience, which is presumably why the white man never sees them carrying their bows and arrows, which are carefully hidden at his approach. They do not like being coerced into doing anything unusual, and rather than make trouble they disappear into the wilds instead of complaining of any treatment they receive. This is exactly in line with the experiences of Chapman and Baines nearly a hundred years ago. The ancestors of these Bushmen often became camp-



13 Corporal Kolobeng

See page 143



14 The camel patrol at Tsane



15 Tshekedi Khama  
*(Central Press)*



16 The end of the mission at Pitsani

followers for a while, for the sake of the meat or possibly out of curiosity, but they were very badly treated by the Hottentot drivers and by the Damara groups who batted on the white men's caravan. When these persecutors robbed the Bushmen of their weapons or of their share of the meat, they rarely complained to the white men, but just disappeared into the blue to make more weapons and to forswear the company of black man and white man alike.

From the camp at the police post in Ghanzi some of our party made a trip to the north-west to the large *laagte*, or 'valley with the dry watercourse', which was closely studied by Chapman and Baines in 1861. In the meantime I had interviews with local people, including the Mr Burton already mentioned, and was entertained by the police officer and his young wife. Her maid was a well-built, good-looking half-white, very intelligent as well as neat and clean. I learned from her mistress that she was half-Bushman and (by the same authority) very much more satisfactory than the half-Damara and half-Bechuana who were also to be seen in that region. The only disadvantage in employing Bushmen, either whole or half, seems to be that they find prolonged residence on one ranch irksome and cannot be relied on for continuous service, even though they confess to being happy in all material respects.

We now started on the route southwards to cross the part of the Kalahari which has always been the most difficult and on which there was little information beyond the names of the pans on the way. This is the route by which an occasional drove of cattle can be taken down to the railway, 500 miles away, but only in the rainy season. For the first thirty or forty miles there was almost a track, since there is an outpost leasehold farm at the crossing of the Okwa River. About halfway one crosses a steep little valley, quite innocent of water or even of signs of its having once been there, which possesses the impressive name of Buitsivango. On several other occasions, crossing similar but smaller valleys, I had great difficulty in deciding which way the valley ran, or more precisely which way the water would run if it ever came into the valley. With a valley which had a name and appeared on the map for miles, I was almost ashamed to confess the same



difficulty to my companions. However, it was vital to know, and when we had roared up the other side in bottom gear I halted the convoy and asked everybody's impression as to which way the Buitsivango ran. I had no help whatever, for half voted for one direction and half for the other, leaving me to give the casting vote. This shows that such depressions have long been innocent of water which can be said to be *running*, that the general slope of the land is very hard to perceive, and, lastly, that except when a series of small pans is joined by running water, perhaps once in a century, there is absolutely nothing to give a final decision except some tedious levelling, for which we had no time. We were satisfied, finally, that it really was a former tributary of the Okwa, which resembles it in being indefinite in direction of slope.

At the Okwa we found no white man, but a cattle post, which we were to use as a headquarters from which to run sorties far out both to the west and to the east, roughly along its line of flow. The cattle post really consisted of a Hottentot or coloured man in charge of about 200 cattle, which had to be kraaled every night for fear of lions. But there was a reasonable well, dug in the bed of the Okwa, and there were actually one horse and a couple of donkeys to help with the cattle. Jack and Brian were, of course, very interested in the beasts, though they despaired of tracing their true lineage and amused themselves by pointing out the vague traces of every breed known to them. Hardly any had the really long horns which are the mark of the true Damara breed, but most were long-legged, a trait which our experts demanded for ranches in such remote country, since all would have a long way to walk before finding a market.

There were plenty of Bushmen here, but once we had shot some meat for them they went off again, to my regret. My interpreter told me that they thought it rude to hang round the white man's camp, but more probably they had lawful occasions elsewhere, following out part of their yearly routine, of which one item is to fill ostrich egg-shells with water and bury them, at various places known only to themselves, for use in the dry season.

It was here that we first met with large numbers of the grapple-plant, or Devil's claw. This is such a curious example

of adaptation to environment that it deserves a full note. It is really one of the melon family (known to botanists as the cucurbits), but it has taken such a strange course in its evolutionary process for the sake of dispersal of seed that it no longer looks in the least like a melon. There are, however, varieties of the same tribe of plants which seem to be intermediate between the smooth-skinned melon and the hooked horror that is the grapple-plant. It is a creeper, like the rest of the family, with deeply-cut leaves and a handsome bell-shaped flower of a deep mauve colour. The flower gives way to a small central melon-body with no less than sixteen arms, each of which is furnished with grapple hooks. Eight of these arms curve in one direction and eight in the other, and when mature



### THE KALAHARI GRAPPLE FRUIT

*Harpagophytum procumbens*

they have a certain springiness, so that if an animal puts its foot or its mouth on it the arms yield until the grapple-thorns spring back into the flesh and simply hang on. Livingstone says of the plant that it sends cattle mad with pain and that springbok can only get rid of it from their feet by jumping more than ever and in due course smashing it to bits, thereby scattering the seeds far and wide. In case the arms should fail to catch on at first contact, there are two little projections on each side of the body of the fruit, also armed with hooks, which will take initial hold until the arms come into play.

As the drawings show, these little projections look exactly like the two eyes of a wicked old gnome, and there are even creases in the dried-up fruit which simulate the lines of a wizened face (I have endeavoured not to magnify these in the sketch). The plant's botanical name is *Harpagophyton*, or grapple-plant, but I prefer to associate it with the Devil.

There has been a curious sequel to this instance of plant ingenuity. I brought home several specimens, and was showing one to an eminent oceanographer at the Royal Geographical Society one day. He told me that his scientists had had great difficulty in catching the slippery octopus, but that this plant had given him a clue. Accordingly, I gave him two specimens as models and no doubt the wily octopus lurking in crannies deep offshore will now meet its fate in the form of a device copied from a desert plant, which will in fact oppose sixteen arms with grapple-hooks to its own eight arms with suckers.

The inhabitants of the Kalahari, both two- and four-footed, are so much indebted to the melon family that perhaps they forgive this eccentric member of it because of the sustenance they gain from the others. At the most useful end of the scale is the sweet *tsamma*, which looks like the small cultivated melon and is just as juicy, though not as sweet. In good seasons it grows in such dense profusion that in places it is difficult to avoid treading on it. All animals use it, and the Bushmen, as already mentioned, depend on it for months on end. It tastes rather like a vegetable marrow and even has a certain food value. The real excellence of the fruit is that when mature its rind thickens and it lasts throughout the dry season, still with a store of juicy pulp surrounding brown seeds which themselves are nourishing. Not until the rains come does the rind soften and decompose, allowing the seeds to germinate again.

There is, however, a bitter sort of melon so exactly like the sweet kind in appearance that one can almost believe what the Bushmen say about it—that if the *tsamma* grows out of the dung of one kind of animal it will be sweet and if out of that of another it will be bitter. I believe the latter is supposed to be the rhinoceros, but that can hardly be so, since the bitter melons still flourish in the Kalahari now that the rhino has

been almost completely killed off. Only slightly behind the *tsamma* in importance is a yellow kind of cucumber with slight horny excrescences on it just like some of our outdoor cucumbers. The fruit is much shorter than those, though it tastes exactly the same. It comes up earlier than the *tsamma* and does not last so long. Lower still in the series are various miniature melons, ranging down to the size of a large walnut, some of which have prickles and some a furry skin. Only the Bushmen know the value of each of these minor ones, and, like the tubers, some are harmful if not actually poisonous.



*Tsamma Melon*

The poisonous tubers are sometimes virulently so. An American named Farini, who wrote a most readable book about a journey across the Kalahari in 1885, had a most curious experience as a result of eating some of these roots by mistake. He lost all his senses except hearing, and when he was picked up by his party he heard them discussing whether or not he was dead. But for the common sense of a white companion, he might easily have been buried then and there, for he was entirely helpless.

Farini lived to do a very long trip with his party, which included Bushmen, and they and their oxen and horses lived for many days, if not weeks, on *tsamma*. They were boiled, roasted, eaten raw, and squeezed to provide water. In the latter case the juice turned sour after a few hours, but that did not deter the Bushmen. It is not untrue to say that without the *tsamma* the Bushmen themselves and several of the larger antelope would not be able to inhabit the dryer parts of the Kalahari at all. There are also massive yam-like tubers

known to the Bushmen which are second only to the *tsamma* in importance but these alone would never suffice.

It was at this two-day camp on the Okwa that I met an insect which is the first that has ever given me the creeps. I was ashamed of myself for giving way to mild 'nerves', for I can endure much more harmful ones, like spiders, ticks and centipedes.

The local name for it is the giant cricket, but I believe it is really a closer cousin of the locust or grasshopper—a grasshopper deprived of its hop, since it only crawls. Its spread of six legs would cover a tea-cup, while its black body is about as large and as shiny as the cap of a large fountain-pen. There are no wings and it moves by a very measured crawl, quite slowly but with infinite persistence. It is not peculiar to the Kalahari, but it certainly flourishes there, for almost every bush for the next hundred miles had its quota of one per branch eating and crawling. It is quite without any form of defence, unless it has an unpleasant taste; certainly it did not seem to interest birds in the way that locusts do. You might well ask why anyone should get horrors at such an inoffensive insect, which lives merely to crawl and eat, with presumably some interludes for breeding. The trouble is that these 'crickets' do not really enjoy their diet of low thorn-bush and much prefer eating human hair or, if that cannot be got, then each other. The first thing I noticed about them was their nervousness of each other; if in their slow crawlings one approaches another, both will take fright and back away. But if one is wounded then another will crawl up from behind and begin eating it. More extraordinary still, I saw a badly-crushed cricket being eaten by a less-badly hurt one, which at the same time was being eaten by an unhurt one—a revolting sight.

When I sat down to write at the camp table in the middle of our wide tarpaulin floorcloth I would begin by sweeping all these creatures off it on to the sand, and those which were injured were then presumably eaten by the others. There were always plenty left over, however, and these would begin to crawl back, at about a foot a minute, and soon there would be a ring of them slowly approaching me, to be swept away again. If I forgot about them and became too engrossed in my work the first warning I had would be a tickle at the back

of the neck. Reaching up to brush away what I took to be a fly or small beetle, of which there were plenty, my hand would encounter one of these crickets perched on my collar and nibbling at my hair, and there would be several more somewhere on my back making holes in my coat. They were particularly



*The giant cricket*

fond of the brim of my felt hat, which was nibbled all round before we had parted from them.

It was useless to tell myself that I could spare fractions of my coat and hat, of my hair, and even that they were pretty harmless: their large size and their gross habits were just too much for me, and I never wish to meet them again.

It was along this stretch from Ghanzi to Lehututu that I had expected to have trouble in finding the way. To meet this risk, Van had got for me the loan of a most excellent—and weighty—theodolite, and I had furnished myself with a chronometer watch and the necessary astronomical tables. However, any idea that I was to imitate Livingstone and Baines in this way was doomed to disappointment, for we found that one and possibly two trucks had passed that way in the last twelve months. There was, therefore, a faint 'spoor' to be followed, and the only purpose in taking sights was to establish the longitudes of some of the pans.

The pans we were passing were disappointing in the amount of water they held, considering that it was still well inside the rainy season. We had no difficulty with water ourselves, though some of it was *brak*—the Dutch word for salt. The fact is that as most of the rainfall comes down in heavy showers of very short duration, with a strong sun to follow, on a very sandy surface, there is little prospect of a pan being filled with water unless the storm endures for some time over its very local watershed. Nevertheless, although we were going from the wetter to the dryer end of the Kalahari, the grasses became noticeably higher and the trees also as we approached

Lehututu. Our predecessors must have been in a truck much smaller than our cabooses, for we found that in following their winding route between these trees we were bashing branches quite seriously. In one or two cases we brought branches of some weight upon ourselves and kept up the shower of insects that we had become accustomed to in the more thickly-bushed country of the north. The 'boys', in the rear part of the cabooses, had a lively time. They dived under the tarpaulins with which they had furnished themselves when the look-out man gave them warning, but every now and then a howl, accompanied by roars of laughter from the others, told us that the warning had come too late.

It was somewhere along here that we had an interesting encounter with a mamba, the most dreaded snake of all Africa. The leading lorry saw the snake, nearly ten feet long, passing across the track immediately in front of the wheels. Now, the mamba is reputed to be able to flick the forward part of its body high in the air and strike the driver of a truck even while it is being run over, so that drivers prefer to let the snake get clear. Only a week or so earlier a mamba hanging from a branch had struck at our Bechuana driver, John, but he fortunately had the window up at the time and the only result was a bruised nose for the mamba. In this case, however, it was too late to stop, but when the driver had as he thought run over it he pulled up to view the corpse or complete the killing—that being a recognised duty where mambas are concerned. There was no sign of the snake, and we in the second lorry, though we had seen the incident, had not seen it escape in either direction. The only conclusion to be drawn was that the mamba with its characteristic swiftness of motion had withdrawn head and tail under the lorry or perhaps even sprung beyond the track. While loth to give any evidence in support of the fabulous tales that a mamba can outpace a horse and do so with half its body upright in the air, I must record the sober fact that in a split second this particular mamba was fast enough to escape a lorry moving at a rate of probably eight miles an hour.

Our journey south from the Okwa River for the next 120 miles can hardly interest the general reader, though it was fascinating to us, as we were passing through country which

could be wonderful grazing land—always provided that water could be found. We began by driving eastward along the riverbed, passing several small dry pans, and after four miles we climbed out of the broad *laagte* up a rise of at least eighty feet. In the valley we had been crossing granite rocks, very red in colour, but now we were once more in heavy sand with thorn-bushes up to twelve feet high. These limited the vision somewhat so that we could rarely get a broad view of the country, and they explain the entry in my survey notes of 'Vague sand-dunes'. This simply meant that our track rose and fell by some twenty or thirty feet in a fairly regular way. Although it was not yet the end of the rainy season, all the pans were dry. At their edges, as usual, the limestone or calcrete out-cropped as a white shallow cliff, and they were often so long and winding that they may have been *laagtes* or valleys, that is, strings of pans. The tussocky grass, mostly of the variety known as Bushman grass, was good, but thin on the ground.

This grass is rather typical of limey soil and is one of the constituents of what the South Africans call 'sweet veldt' as opposed to 'sour veldt'—a very important distinction. In sweet veldt the grasses when dried-up are still edible and palatable to stock: in sour veldt the grasses are of little value once they have reached maturity. There was little game beyond duikers to be seen, but we frequently passed lion spoor, and the absence of game simply meant that it was dispersed or had moved off on hearing our noisy convoy. We left the springbok on the pans alone and were free to enjoy their gymnastic displays as we passed these flat areas.

The springbok seems to be so proud of his running and jumping prowess that he exhibits it on the least provocation, leaping high into the air for no apparent purpose. He likes to use a stiff-legged technique as he lands from these prodigious leaps, so that he appears to rebound as if he had touched a springboard. He also twists himself in the air and as part of the exhibition erects the curious crest of long white hairs along the ridge of his rump which looks almost like a mist over that part of his body. When you add to these contortions the gorgeous colouring of this gaudiest of antelope you may realise that though small he is perhaps the most interesting of his tribe.

Like many other wild animals, the springbok liked to play



the game of 'last across', running obliquely to our track and then putting on a spurt to pass in front of us. When one of the lorries had already passed the leaps they took to clear the suspicious tracks of the wheels were prodigious—up to thirty feet from take-off to landing. In the distance they run in file and when close together have the curious appearance of a vast speckled centipede, especially when doubled by the mirage common on pans. When they had provided as much circus entertainment as they thought was good for us, they stood at gaze with heads high and sloping rumps as though to court our admiration as much when statuesque as when in motion. It took some resolution to shoot them, and Van took care that we never did so except for food. Their numbers were amazing: we rarely saw a herd of less than 100, and often more than 1,000.

As we got further south the grass increased in quality and quantity, and so did the trees. Indeed, half-way between the Okwa and Lehututu the scene resembled parkland, with trees of twenty-five feet and more, only a few bushes, and many open spaces with nothing but grass. We saw a good many Bushmen here and most of the pans had Bushman names.

At a well-known pan named Massering we chanced to arrive meatless at breakfast-time. For our large party, with eight Bushmen guests, it was necessary to shoot two springbok, and the question arose of eating freshly-killed meat, some saying that it was very bad for one's inside. However, we had people ready to make gastronomic experiments, and we cooked four kidneys within ten minutes of their functioning in the owners' bodies. As one of the chief experimenters, I can only say that they melted in the mouth and that I am all in favour of a quick kill and a prompt cook. The Bushman technique of dealing with a carcase of springbok is more complicated than one would expect. To begin with, they take the greatest care to preserve all the blood, so one of the first acts is to cut out the paunch and turn it inside out to serve as a receptacle for it. Then the intestines are tit-bits to them, so one has the spectacle of one of the older men cutting them into lengths of about two feet, stripping each length very delicately with the fingers to express the contents and then hanging each length round his neck to keep it off the sand, until he ends with a grisly festoon

of 'buggy innards'. There was obviously some strict procedure in this cutting up, the younger men not being allowed to handle or eat certain parts, much in the same way as, when we were very young, we were told that brains and kidneys and sweetbreads were not good for little boys and must be reserved for the grown-ups.

It was noticeable that as we went south the sand passed from the general grey colour of the northern part of the Kalahari through a pink to a red tint. The reason for this colouring is probably the decrease in rainfall, but it certainly seems to be reflected also in the quality of the soil itself. Given sufficient water, the grass and the trees certainly seemed better the redder the sand. The colouring is, of course, due to surface films of iron oxide on the individual grains, which in a wetter climate would be dissolved off and leave the bare quartz grains with their characteristic milky-grey colour.

Whatever the reason for improvement of the pasture, Jack and Brian were very conscious of it, and at every stop would walk off with Johnnie, our local expert, to hear what he had to say concerning the different grasses and shrubs. Johnnie had bred cattle in Ghanzi for a long time many years before, and was revisiting old haunts. He probably turned the scale at about 16 stone and had passed his half-century, but he was very strong and active and a boon companion for this part of the trip, full of fun and energy and knowledge of the country. Van acquired more from his wisdom than I did, because Afrikaans was his native tongue and most of their talk was in that language. Like all his countrymen, he would rather see meat hanging on the trees drying into biltong than walking about as game, and in spite of our restraining hand we had amassed far more biltong than was necessary, each of our 'boys' having a sort of private store. When properly dried, with a little salt, the thin strips are almost without smell and very tasty, but with our ceaseless travelling and the occasional thunderstorm it was impossible to make good biltong, and nearly every morning Van and I directed that such-and-such a bundle of it must be thrown away as too smelly. The boys would eat all they could and hide the rest amongst the petrol drums on the lorries until our noses next night once more guided us to the hoard and we condemned it again.

On Sundays we usually camped a little earlier than usual to give Van a chance to arrange one of his 'dinners'. The fare was always much the same, but Simon the cook was told to take special care over the cooking and serving, we cleaned ourselves up more thoroughly, and there was always a menu card, preferably in French. The high spot in menus was our Goodbye Dinner on the last Sunday, given in French and Bushman, with English translation of the way in which a Bushman would describe our curious food. Tinned peaches, for instance, could only appear as 'Tree melons of mad Europeans'; for who but a white man would ever take the trouble to cook a fruit, put it in a tin, carry it about for months, and then open the tin to eat the contents? The height of madness was reached when the fruit was eaten and the tin, the only thing of real value, was thrown away into the bush.

These diversions did not prevent my companions from being very earnest in assessing the value of this, the least-known stretch of all our journeys, and the general consensus of opinion was that but for the almost complete absence of surface water this was perfect country for cattle, if kept to its proper capacity of about twenty-five acres to one beast and carefully managed. Grass fires lit by Bushmen would be a hazard, and lions would take a small toll, but there would be little chance of disease, and the land itself would be dirt cheap, being Crown land which produced nothing at all at present. The cry of the would-be ranchers would simply be, 'Give us the water-points and we'll grow all the beef you want.'



## Hotel Kalahari

Propriétaire le bon Dieu  
 Maître d'Hotel Ngiriga CACHALLA  
 Chef Nkabe Simon

### Dinanche d'Adieu

Un Menu à la manière des  
 Bushmen du pays vaste et sauvage  
 du Kalahari.

### DIBI DINNER

Pâté: Tsheri Tshode Binnie  
 Koa Xtsho: Gaai Xgulu  
 Norane: Xboa  
 Nkesai: Kkari

Traduction.

### HOMEWARD DINNER

Soup. mors of wild meat and boiling water  
 Asupeni Roots for pale faces.  
 Viande et légumes. Bount flesh of Springbok:  
 Wild berries  
 Under earth bulbs of white men.  
 Dessert. Tree melons of mad Europeans  
 Vins Boiling water

Menu of the Goodbye Dinner  
 written by Van



## CHAPTER VI

### *Lehututu*

WE had now reached a fairly definite centre of settlement which has lasted for a very long time. It is based on three sets of pans with more or less permanent water, which are arranged in a triangle. Lehututu to the north, Tsane to the south, and Hukuntsi to the west are about eight miles apart, with feasible tracks between, and each has at various times been dominant over the others, either because there was a more prominent chief there or because the best store was there or, as now for Tsane, because the police post was there. We therefore made a stay of some three days, taking for our base the police compound at Tsane.

The cattle experts made a sortie in a light truck to the north-west along a line of pans, while I did a short circuit myself with the District Commissioner. The party with Van moved quickly and covered a total distance of about 170 miles, reaching as far as the Okwi pan which is only twenty miles or so from the border of South-West Africa. For most of the way they passed through very good cattle country carrying immense numbers of game. In Brian's opinion, the soil was more compact than in most of the Kalahari country and even on an

overall average, for good and bad country together, should carry one beast to forty acres; this always provided that water-points were scattered to prevent overstocking of any one area. They reached the areas where during the extermination wars of the Germans against the Hereros (Damaras) there was a large refugee population of these unfortunate people flooding across the border for safety. Arnold Hodson, whom we have already quoted, found them in a very sorry state, with smallpox raging and food giving out. The British administration could do little beyond keeping them alive and ensuring that strict neutrality was observed, so that the hunted people could not get weapons with which to cross the border again. In fact, it was Hodson's melancholy duty to impound a large number of excellent German rifles captured by the Hereros and to burn them publicly in front of these persecuted people.

All the country to the west might be called *tsamma* country, in that once the pans are dried up (which is usually by June) man and beast must depend for water on finding large patches of this wild melon. Hodson himself was on several occasions hard put to it till some friendly Bushmen showed him where the *tsamma* stretches were for that particular year.

Meanwhile, at the police post I was happily occupied discussing matters with the D.C. and the Forestry Officer and observing with still greater interest how administration works in this outermost post, where there was only a native police corporal and eight or ten troopers to enforce law and order. They had an area little less than all England to cover, which they could only do by using camels. It is true that the population is very thin and administration is more a matter of showing the flag—or, more properly, showing the uniform—than of carrying out regulations or punitive expeditions. Nevertheless, such rule must in the last resort depend upon the character and the sense of responsibility of the leading man at the post. In this case it was a Basuto, Corporal Kolobeng, who struck me as the very best type of African for such a mission.

He was short and stocky and very proud of his command, which he ruled with an iron discipline. The little squad paraded at some unearthly hour each morning, and one day I noticed a single trooper marching up and down in front of the

guardroom fully equipped. I asked the Corporal whether this was what in the 1914 war we called pack-drill, and he promptly answered, 'Yes, sir. One hour pack-drill. Two minutes late on parade.' Kolobeng was a first-class camel-man, and rode his ungainly beast with a grace that was strange to see in such a squat figure. Most of his troopers were also excellent camel-riders, and they loved parading for me and even going through sundry manœuvres. With luck, Kolobeng may be visited by his District Commissioner once a month, but more often there are gaps of three months, when anything beyond his own jurisdiction, such as cattle raids on a large scale or murders, must be kept on his desk for the attention of higher authority.

The people gathered round these three centres are mainly the Ba-Kalahadi, who seem to be a mixture of the original inhabitants of Bushman type with the Bantu who first came on the scene. Until quite recently they were either the slaves or the serfs of the Bechuana tribes to the east of them, paying them a tribute of skins and being used as cattle-herds or suppliers of goats. They are only semi-nomadic, for they plant some grain near these more permanent pans and, unlike the Bushmen, they even have sub-chiefs. Farini gives an amusing account of one of these chiefs who embarrassed the white men alternately with threats and largesse. For instance, Farini, asked to make rain, produced or rather forecast rain for the next day. It came down so heavily that it flooded all the crops and, instead of acquiring merit with the tribe, he was accused of trying to ruin it.

The District Commissioner was very interested in a small group of about 500 Hottentots who had been collected together in a permanent village to the west of Hukuntsi, where they lived by keeping goats and growing an occasional crop. How far these are original or true to type must await the visit of a competent anthropologist, and I can only describe what I saw. On the way there my guide was bewailing the fact that a small grant for their education that he had acquired was now used up, and he showed me a tumble-down school near their encampment which he would like to restart.

The headman and a few others came forward and conversed with us through a native policeman in their extraordinary

language, which includes even more clicks and other strange noises than that of the Bushmen. They were clothed very carefully in European clothes, even to old felt hats, but they looked none the better for that—in fact, it merely gave them a degenerate appearance. Their flat, yellowish faces and Mongoloid eyes gave them a resemblance to the Bushmen, and perhaps if they had been unclothed it would have been even closer. Nevertheless, they are higher in the scale of human intelligence, one is told, and were an established people with cattle as their chief economy when the Portuguese first came to the Cape. The Cape Coloured people (a generic name for the very large number of hybrid people still mainly in the Cape district) have more Hottentot blood in them than any derived from the other races responsible for their existence—races which include Portuguese, Malay, Boer and even some Bantu.

One would like to be able to say that this Hukuntsi group of Hottentots represented a fairly pure stock, but such an idea received a rude shock when at the D.C.'s request the headman called to the women and children to come from their huts to be seen. It took a long time to collect some thirty or forty of them, because they had to go and put on such finery as they possessed. When they were ranged in a line in front of my camera, I noticed that one, a girl of seventeen or so, was quite different from the others, so European in appearance that I asked if she was a teacher. The D.C. told me she was a half-breed, half-Hottentot and half-English, and in fact I had met her father (fully acknowledged and not merely putative) some years earlier in another part of the Territory. She had probably never seen him, however, and had been entirely brought up by the Hottentots.

This girl struck me as an extraordinary instance of heredity, for in spite of her upbringing she had European characteristics very plain to see. She was taller and more burly than the other women, her features were almost entirely Aryan, with the barest suspicion of slant eyes, and her bearing was in marked contrast with the rather huddled posture of the others. She even wore her clothes differently. I asked what would become of her, and in so doing surprised the D.C. into giving me an example of what these officers do for their charges. He was



hoping to marry her to an Indian storekeeper in the district and so give her a chance to rise above an environment to which, physically at least, she was greatly superior. This may be called miscegenation gone mad, for her children in that event would be one quarter Hottentot, one quarter English (more strictly, Australian-English), and one-half Indian, but it would give her, and them, a chance.

In spite of this glaring instance of the impact of an alien race, the D.C. seemed sure that he had a fairly pure example of the original Hottentots in this little settlement and he was anxious to keep it so. To me the whole visit had a strong element of sadness: seeing the remnants of an originally virile people eking out an existence in the Kalahari, slowly dying out it seems in an enclave where they had at least security, but little else perhaps, and nothing much to live for. This was partly because of the violent contrast between them and the Bushmen we had met, still living the true hunters' life and still all but independent of the white man.

It would almost seem that the Hottentot has suffered for having a higher level of intelligence, which led him to compete with the white man instead of running away from him, as did the Bushman. He is, therefore, now trammelled with incongruous clothing, feels new desires for such things as guns and spirits, and he has lost faith in himself and his discipline.

In thinking thus, we must not fall into the error—one which spoiled much of the Victorian era of missionary fervour—of talking of the noble savage. There never was a noble savage; he was just as pugnacious and tyrannical before the white man came and even more so; but he did have tribal discipline. When we came we gave him gunpowder and wheels and ploughs, and sometimes we gave him religion, but nearly always we took away his discipline in exchange.

Just once in a way we met an African chief who saw what we were offering and who had the courage to stand by his ancient discipline. The great Khama was one such, who defied the Boers and controlled the English because their guns and their liquor would spoil his discipline and thereby the security of his tribe. His son, Tshekedi, did much the same thing, though he seems to have overplayed his hand or else has been undermined by tribal forces stronger than his own,

but essentially what he was aiming at was to maintain discipline and to direct it towards improvement in various directions, particularly education.

We have preached doctrines to the more primitive African which either he could not understand or else he knew better than to accept. The more foolish of democratic white men told him that all men were equal, when he knew perfectly well that they were not. This man was better at hunting, that man was strong and that man was weak: what nonsense to pretend that all men were equal. When the democrat modified his statement to mean that all men had equal rights, and went on to say that all men (and women) should have this strange thing called a vote, he again revolted against an absurdity. It was perfectly plain to him that some men were wiser than others and therefore should have a larger say in ruling. Why otherwise should they have had sub-chiefs and petty headmen and elders from time immemorial, chosen by the wisest of all, the head of the tribe? What nonsense it was, this 'one man one vote' business!

That was the African's first reaction, at least, but later, when he saw how democracy could create its opposite, autocracy, the rule of the clever at the expense of the hereditary, he proceeded to assimilate the doctrine and erect a new inequality. He knew, better than some of his white advisers, that inequality rather than equality was the heritage of man born of woman and that what the white man had done for him was to take away command from the strong arm and give it to the clever head instead.

What then is to become of these little people, the 500 or so of Hottentots and the 1,000 or so of the little yellow Bushmen in this central part of the Kalahari?

The Hottentots are the easier to deal with, but the harder to satisfy, for although they form a compact group they are really refugees, displaced persons, with less than the normal will to live. The Bushmen, on the other hand, are aborigines; they belong to the land and are captains of their own destiny. Their will to live is strong, but it is a will to live alone, to be allowed to roam as they have done for centuries as hunters and gatherers. They are as much a part of the landscape as the springbok and the melon and the camelthorn; they belong to

the 'association', as the botanists would say, the groups of plants and animals which by their interdependence have established a closed circle: a perfect case of isolation, which can maintain itself without help from outside. They live, we must remember, in a very large area of Crown land—that is to say, it is not allotted to anyone, and therefore the Crown, through the British Government, can plan its future and decide the fate of its people.

We must not forget the largest group of all, the Ba-Kalahadi (People of the Kalahari), who are half-Bantu and who do practise some cultivation as well as rearing stock. Their numbers in this area may amount to 3,000 or more.

What would a benevolent dictator do with this strange area, this country which in spite of lack of surface water grows grass and gives a precarious subsistence to these few thousand people dependent ultimately on that grass?

If he were truly benevolent and yet not very wise he might say: 'Hands off the Kalahari. Let it remain exactly as it is. Let Nature take its course.' There are many who would support such a suggestion, who would quote game reserves and national parks and say that to include the human inhabitants amongst the game is to go only one step further than the Belgians have done in their gorilla protection area. On the whole, the apes are protected rigorously, but it is true that the authorities occasionally allow a hunting party to go in and capture or shoot a gorilla in the cause of science or, be it added, circus entertainment.

Since with that corollary the analogy is somewhat unfortunate, the enthusiasts could point to East Greenland, which is a 'closed country', no one being allowed there from the outside world without permission from the Danish authorities. It is a good example, but it would be foolish to say that the Eskimo there have remained in the state in which they were even twenty years ago. The impact of what we call civilisation has been tremendous even there, and yet not harmful, so it is not by any means comparable to a game reserve; it is rather to be regarded as evolution under control, a guided and guarded progress for the people. The conditions under which they live have not been left alone; they have been altered very much—to their material advantage,

it is true, but nevertheless altered by outside agency; and that is just what we shall have to do with the Kalahari.

In plain English, we are arguing from entirely false premises when we talk of a Kruger National Park style of reserve to be applied to Bushmen and Hottentots. That Park is, we believe, a huge success from the point of view of the animals therein because it has removed from their minds one of the multitude of fears under which they used to live. In the bad old days of their forefathers, the animals had as their prime fear the two-legged animal, black or white, which harassed them with a myriad dangers—sharp steel, game pits, nooses, poison and swift bullets. Now these fears have gone, and instead of two-legged animals which they rarely see there are harmless, smelly cars looking like giant beetles which move swiftly among them without interference.

The other fears remain, the predatory lions, the seasons of shortage and occasional disease, but life is simpler than it was. We say that Nature takes its course, albeit unnaturally controlled by a few wardens and regulations.

There is indeed everything to be said for game reserves, and I sing their praises in concert with the rest, but we must not delude ourselves into declaring that they are natural. And who is to say what will be the effect on the animals a century or so hence? So far there seems little in the way of evolution happening, except that elephants have learned to unscrew water-pipes and lions have fun by lying across a dusty road and making the cars stop or go round them. But if we plan to do the same thing for humans, we ignore several major and vital differences between man and beast: the fact that man is ten times more adaptable to changed conditions, that he can communicate with his controllers, even if only by click speech, and, most vital of all, can use tools—tools which render him superior to all animals, tools which are every day becoming more efficient. Imagination may boggle at the idea of a primitive Bushman being concerned with electronics, but even now he is slightly affected when he sees a lorry of white men holding speech with men 1,000 miles away. Nor is the time so far ahead when he will have a queer box talking to him in his own language from the porch of a D.C.'s office or the tail of a passing lorry, and telling him where the

best rain has fallen and where are the largest areas of *tsamma* melons.

There can, of course, be no question of leaving the area entirely alone, withdrawing all authority. It would be an interesting but quite heartless experiment to do so, to see which of the three peoples became dominant by exterminating the others, for that is what would happen; and if no superior weapons came in from outside sources, the Bushmen would win easily.

The triangle formed by Hukuntsi, Lehututu and Tsane is a more or less natural centre for the very large block of Crown lands which occupies the south-west of the whole territory, and though the Mission journeyed further via Kukong and Kakia till we reached the Molopo River, we can now sum up the prospects for ranching in the area as a whole. Any future for the area is dependent on water being found by shallow bores more or less all over the region, and the chances for this are reviewed in the last chapter. It is a very large assumption to make, but for the sake of argument we will make it and consider how the ranching thereby made possible might be organised.

It should be clear in the first place that native owners could never be trusted with such marginal land, nor indeed could individual white owners, who even if highly skilled in pasture management could never succeed without very large holdings indeed—say, 50,000 acres as a minimum—which would need proportionately large capital expenditure on fencing and water-points. Quite apart from difficulties of this kind, there is the undoubted fact that sooner or later individual owners would tend to overstock or otherwise ‘mine’ the land—that is, take value out of it at a greater rate than it could support. We therefore have to fall back upon some kind of corporation, board or governmental body which can find the capital, afford to wait years for the profits, and undertake such a large area that stock could be moved 100 miles or more when local droughts required it.

Even if water were found below the surface, it would still remain marginal country until many years of experience had passed. No one yet knows to what extent the browse shrubs can take the place of grass; no one has yet full knowledge of

the amount of sweet veldt that exists there, and whether it is possible on such a large scale to guard against shortage of feed by a rough haymaking technique. Ranchers in the true sense usually scorn the idea of haymaking, partly because of the high cost and partly because they do not like being thus associated with beef farmers, who also grow grain, etc. Yet the two members of the Mission who were ranchers were so much struck by the strong growth of grass in the rainy season and its obvious scarcity in the dry season that they were prepared to consider the conservation of grass as hay as a matter for serious experiment.

With so much unknown or at least only guessed at, it is impossible to give a figure for the carrying capacity of this land which would not be very misleading—in either direction. Yet this is obviously an important factor in the economics of a large scheme. If, for instance, land will carry only one beast to forty acres, the long distances that some of a herd will have to walk for drinking, mustering, etc., will form an important element in total calculations. There must, of course, be a capacity figure beyond which ranching could not pay on account of these difficulties of distance, management, etc., and it is possible that forty acres per beast may be getting near that figure. On the other hand, if the pasture management is reasonable the pasture itself is almost sure to improve, and with it the carrying capacity. Brian himself, in his very successful ranching in Kenya, had taken years to improve the capacity of his land, but he always said that what he had done other people could do.

It is clear that with so many unknowns before us any scheme must be tentative or, to use the current phrase, must consist of 'pilot schemes' on a comparatively small scale. Ranching, like any other form of land use, must feel its way in a country which has so many surprises in store for the white man.

The two items of expenditure which should be slight in the Kalahari are rent of land and cost of labour. The rent we can dismiss for the moment, because until ranching succeeds the administration is bound to fix a nominal rent only or one on a sliding scale. For labour the industry of ranching is in a peculiar position, because a very large number of stock can be looked after by a comparatively small number of men.

Moreover, the men, if white, as were the cowboys of the western states of America, take to the life because of certain elements in it which please them: its freedom, its isolation, and its intrinsic interest, especially when it entails a great deal of work with horses. There is little doubt that if cowboys were asked to do their work on motor-bicycles, ranching would soon cease to attract them.

In the Kalahari, in fact, only a comparatively small number of white men would be needed, and here we come back to the question we posed to ourselves a few pages earlier: What is to become of the population of Ba-Kalahadi, Hottentots and Bushmen who are now there?

For the first two there can be little doubt that they not only would take to employment as ranch-hands, but in a few years would be useful and supply even a few foremen with some sense of responsibility. The Hottentot, in particular, was always credited in the past with being a much better driver of ox-wagons than most of the Bantu, and some have said that this was because he was nearer to the ox in mentality.

Whether the Bushman could be prevailed upon to take on any employment lasting more than a few days is much more doubtful. To begin with, he could pursue his present mode of life until the cattle had elbowed out the natural game. That is well enough in theory, but in practice there would be difficulties, since the Bushman, with no sense of property, would always be mistaking cattle for game. The case, however, is somewhat similar to that of the blackfellow in North-West Queensland, and in the ranching areas there a *modus vivendi* has been arrived at whereby the blackfellow will work for a period with horses and cattle, but must be allowed an occasional 'walkabout', as he calls it, during which he resumes his primitive life. The Bushman may be prevailed upon to do the same thing in time.

But before all else there must be a careful and possibly a rather expensive search for underground water. If and when found in such quantity as to provide well-distributed water-points, the question of the present inhabitants will arise, and, as indicated, it can be solved if patience and sympathy are available.

Meanwhile, we must mention a very picturesque European inhabitant of Lehututu, of whom I had heard many stories, and whom I had long wished to meet. He had kept a store for many years and now, having made sufficient for his needs therefrom, he had sold out to an Indian and was living the life of a recluse close by. We had heard too that during the First World War he had been an assiduous correspondent with the British Admiralty concerning devices for combating enemy submarines. We will call him Mr Sewell.

He was reputed to be very intolerant of strangers, so when we entered the store I used some circumspection in asking whether I might see Mr Sewell. The Indian storekeeper warned me very strongly to attempt no such thing, as I should be liable to be assaulted with a sabre—of all weapons—if not something still more lethal. So I contented myself that day with looking at the little tin hut next to the store which was his retreat. After buying a few things from the very laconic storekeeper, who did not seem at all surprised at more lorries arriving in two minutes than he had seen in the past year, we went on across the Lehututu Salt-pan, shot some springbok the other side of it, and rumbled into Tsane police post, some nine miles further on.

There I was delighted to see the District Commissioner from Kanye, who had come from his office 250 miles away specially to meet us. I had met him, and the elderly and distinguished Forestry Officer who was with him, on my previous journey. I now found that this D.C. was almost the sole friend of Mr Sewell, and when I told him I had been unable to see that interesting character, he said he would drive me back to Lehututu next day to pay him a visit. This we did, but even so precautions were necessary. My friend went round the corner of the store to knock at the door of the tin hut, arranging that if he made a certain signal to me, still waiting in the lorry, I might come forward. Mr Sewell's mood happened to be favourable, and I was honoured with a long interview and even a few reminiscences.

The D.C. has since then supplied me with such details as he could of this extraordinary person, and these complete his portrait. He is an ex-sailor who first came to the Protectorate after the Boer War, when, like so many others, he was left



amongst the flotsam as the tide of war receded. He began as a trader, and used rather original methods of eliminating competition. Thus when two Lithuanians obtained a licence to trade, he let them build their store, and the day before it was to open invited them to afternoon tea. When they arrived he was busy cleaning and oiling a rifle, and quietly informed them that he was going to use it as soon as the new shop opened. It did not open. Perhaps it was from methods of this kind that he developed a guilt complex; he retreated further from the railway-line and set up his main store at Hukuntsi, eight miles from his present dwelling. Here he became more and more of a hermit, and when my friend the D.C. first met him, in 1937, his attitude to strangers had become fixedly hostile.

‘On my first trip the sky was overcast and an east wind was blowing. When I told the local police that I was going to Hukuntsi, they advised me not to do anything of the sort, as there was a man there who went mad on cloudy days especially when the wind came from the east. However, I went, and on getting to his shop I found the door closed. I knocked and after a while it was pulled open and a slight man with queer blue fanatical eyes appeared before me brandishing a butcher’s knife with a blade at least eighteen inches long. After looking at me for a minute, which seemed a lifetime, he asked me into the shop, closed the front door, opened the back door and took me through to the one room in which he lived. Here he opened out and talked to me for a full two hours, offering me a cup of tea, which I accepted, and asking me to call again.’

Later the D.C. even persuaded Sewell to take a trip to Mafeking with him—the first time he had left the desert for twelve years and also the last.

During the war he had lost touch with Sewell, and when in 1949 he again inquired after him he was told that he was living in abject squalor in the hut at Lehututu, never speaking to anyone and running inside whenever he heard the sound of a lorry. However, he agreed to receive the D.C. and a friend from Kanye.

'He was dressed in a shirt and a pair of duck trousers, which had once, evidently, been white, but were now as black as any of the Fascist black shirts. There was a bed in the hut with a filthy torn mattress on it, a blanket that was in shreds, and on top of the blanket at least fifteen cats. There were more than thirty cats in the room, all half-starved. On seeing these, the first words I said were, "Good Lord, Sewell. Have you started breeding cats?" He replied, "No; they breed themselves." We chatted to him for only a short while and were pleased to get back to Tsane for a bath. . . .'

The D.C. comments that Sewell is—

' . . . the hardest man to understand that I have ever met. He is the complete recluse. During all the time that he has been in the country he has never associated with native women, and I have never seen him take a drink. . . . He cooks once a week, on Sundays, when he cleans out a three-legged Kaffir pot, puts in some meat, dried beans, cabbage leaves and potatoes and starts a stew. This stew goes on all the week and when the pot gets low more ingredients are added. . . . He is reputed to be wealthy and to have buried a fortune. My prediction is that he will be eaten by his own half-starved cats. . . .

'I next met him in your company and, as you will remember, we sat outside his hut.

'Sewell is a man with an amazing memory, he can remember practically every incident he has witnessed and describes these incidents in minute detail. His memory for names is fantastic and he can rattle off the names of all officers who came out on certain ships in the Boer War. His main interest in life is inventing Jules Verne guns and submarines. In 1937 he was preparing a scheme for the defence of London in the event of an air raid. At each of the corners of Hyde Park he was going to place a battery of four guns with barrels rather similar to the old gramophone horns that I remember as a child. These guns could be loaded with any old bolts, stones, nails, etc., and when fired would cover an area of approximately twenty acres in the sky, with a bolt or nut for each square yard.

‘When I last saw S. he was working out a plan for surrounding a battle fleet at sea by dropping midget submarines from aeroplanes. He would not go into this scheme in detail, but told me that he would send it to me for transmission to Mr Churchill when the time came.’

Much of my own talk with him was taken up with submarines, and he seemed much disgusted with our naval authorities for not having taken up a suggestion of his before the war which, according to him, was the first *Schnorkel* idea for charging batteries without needing to surface.

I had to be careful in asking him questions about his early days in the district, and in fact got very little out of him on that topic. His fear of discovery, if it can be called that when everyone in B.P. knows about him, came out strongly when I offered to send him magazines. He was very grateful and accepted the offer till I asked him whether they would reach him if I addressed them to Lehututu. He immediately looked afraid and said that he would not be there, and that I had better send them to the D.C. This was duly done, but I have had no answer, and I fear that by now either the starved cats or sheer *anno Domini* will have ended his curious career.

Our stay at the police post at Tsane was due in part to the need for repairs to one of our trucks. We had known of this need of a special part two or three days before and had wirelessly it to Mafeking on the bare chance of its being flown out to us. Sure enough, when we reached Tsane and looked down on to the white, salt-encrusted pan beyond the village we saw a small aeroplane preparing to take off, and just had time to contact the pilot, whom Van knew. He had brought the missing spare that morning from Mafeking, some 300 miles away, and after careful reconnaissance of the surface of the pan had decided that a landing was possible. These pans could be very useful landing-places, and but for a curious feature they always would be so. What makes them doubtful is that after rain they are so much trodden by game, each following the others’ footsteps in the mud, that the ruts are like boulders and nearly as hard when dry. In this case it was a combination of hard ruts with a few soft places from the last thunderstorms that constituted the risk, one which

this very light plane was able to face. Here was another instance of how modern communications have revolutionised travel in this pseudo-desert and removed many of its dangers.

Our route from Tsane was through Kukong and Kakia and thence along the strip of Crown land bordering the Molopo River. As we came south and east the grass improved, and my travel notes are full of the initials 'p.l.' and 'ma mo', these standing for parkland and *marella* and *motlilo* trees. Those trees, growing up to twenty-five feet, are nibbled from below by the game, and with the tall blue grass and Bushman grass then flourishing the scene resembled an English park. As the trees were generally about fifty yards apart, we could see some distance, and we were all very much impressed with the appearance at that time of year. Again the thought uppermost in our minds was the waste of grass due to the scarcity of surface water. There was too much feed for the game, but there could not be more game, because in the dry season of the year there was too little water. One might assume that the number of antelope had adjusted itself over long years to the average amount of water available all the year round, and that number was insufficient to eat the grass. The only way to increase the capacity of the land, therefore, is to increase the water supply from underground sources, if such there are.

At Kukong we were in the reserve of the large tribe of the Bangwaketse, who were under the wise rule of their chief, Bathoen II, with his headquarters at Kanye.

At Kakia we went to the Indian store, beside which there is a large tank holding almost permanent water carefully fenced in, and it was curious to experience the sensation of security derived from seeing a really good supply of water after traversing so many scores of miles without seeing any. Half a mile away there was a drilling-machine being used to put down a bore at the edge of the wide pan, and the man and wife in charge of it were well known all over the Protectorate both for their skill and for their way of life. They had in the past been sent to every remote part of the country to put down bores, yet they had worked out a system by which they might have been living on a farm. Their tents were set up end to end so that there was a sitting-room with appropriate furniture (and even a small Frigidaire). On the table or

shelves there were books and magazines, for they were great readers. They were also very fond of pets, and puppies were playing round and parrots climbing up the tent-guys asking to be scratched. There were goats and cows for milk, and a sufficient number of native boys to look after them. Up till recently the wife had kept bees in the peak of the tent, but she told me that she had given them up because visitors were apt to hurry away when they realised the cause of the strange buzzing. She was, of course, an accomplished cook and housewife, and in addition she was a learned philatelist, which struck me as the oddest hobby for a person whose mail often took weeks to reach her. When I had seen them four years earlier in Northern Rhodesia they had an ox-wagon, but now they moved their strange *ménage* by lorry.

Now, this was the way of life of the trekking Boers away back in the Great Trek of the early nineteenth century, but it was being practised with a difference. There was the same ingenuity, the same contentment, and the same courage, but in addition there was a culture, a readiness to meet visitors, and a keen interest in world affairs, all of which was rare in the case of the Boers. Needless to say, the man was a Scot.

While his wife gave us morning tea, we talked books, and I asked her whether I could do anything about sending her literature. Her next visit from a white man was due about a month later, and we sent a parcel of books by him. I had a grateful letter from her in which she was chiefly exercised as to how and where she should return them. My letter asking her to keep the best and throw away the worst never reached her, for she died suddenly and so ended what must have been a wonderful partnership. One fears that the award of an M.B.E. to her husband for his life's work in finding water can have been small consolation when he had no one to share it with. She was reputed to be nearly as competent as he was at working the drill and as shrewd at interpreting from the mud brought up from the bore.

It was a great privilege to meet a couple who had lived so worthily and worked so contentedly for the Protectorate, and when in rare moments we now think of Kakia, we at once see those neat green tents, so homely and so adequate even in a semi-desert, the husband explaining to us the working of

his gaunt machinery as it clanked away, and the wife talking of her bees and her books, her stamps and her letters, as though she were in some suburb of Edinburgh. It is in such encounters as one wanders round the world that one realises the strength of the British character at its best and renews faith in its competence to deal with any situation.

South from Kakia, we headed for the Molopo River, that line on the map which marks the boundary between the Protectorate and the Union of South Africa and looks so impressive until one sees or hears that it has only been known to run once or twice since Dr Livingstone's time, and has never yet reached right through to the Orange River, 200 miles to the south of where we met it. Nevertheless, the grass of the rainy season took on a more lush aspect, the trees were higher and the game more sleek the nearer we approached Werda, the police post on this 'river'. Though the Molopo almost never runs at this part of its course, it does most assiduously collect water, either as long lagoons (as when we were there) or in quantity below its sandy bed, to be reached by digging.

On the northern side of the boundary, marked by a wire fence down the centre of this ghostly river, there is no occupation, as it is Crown land. On the south side there is a string of farms or ranches, each with access to the river-bed, whose names indicate that both Boer and Briton had a hand in their establishment. Names like Donkers Hoek, Nelshope, and Rusthof alongside the group of Marlow, Twickenham, and Sheerness show that both nationalities were represented, but now these farms are mostly run by the tougher Afrikaner, who still likes to be out of sight of his nearest neighbour, and is happy if he has grass for his cattle, tobacco for his pipe and a wide *stoep* whereon to smoke it. He may cast curious glances across the boundary at the grass there, but he can rent it from the Protectorate if he will make the effort of signing papers and writing letters. In due course, beginning even now, that grass will be used for Protectorate cattle, and he will at least not have the grumble that it is being wasted, but at present it is certainly a source of complaint. The long corridor of Crown land extending eastward to the railway is the route for the cattle which occasionally come from Ghanzi, and with some

adjustment of boundaries and the provision of water-points will be productive itself in the future.

The story of our Mission can be quickly concluded. We journeyed rapidly through the farms on the Union side, and Van talked Afrikaans to his heart's content with those owners whom we chanced to meet. Crossing the river again at Pitsani police post, we were greeted by a downpour of rain which would have halted lighter transport. We splashed through ponds of water and across flooded *dongas* till we reached slightly better going in the area of the native Baralong farms. Here we had reason to sympathise with the early white man, from Dr Robert Moffat onwards, who found the Baralong difficult people to deal with.

We came up with a dying cow alongside the track and at once put it out of its misery, after which our veterinary expert diagnosed its disease as infectious and judged it was probably one of the herd which had preceded us all the way from Ghanzi. Our sense of virtue was quickly shaken when an old woman shuffled up and accused us of everything she could think of in the way of cattle robbery, citing several people as the owners of the cow. When told it was diseased, and that the carcass must be burnt to prevent infection, she disowned all she had previously said and sloped off, muttering that the Government was trying to bring disease into her tribal area. The first impact of the civilised world to which we had returned made us wish for the Bushmen again, the wide spaces and the comparative honesty we had grown accustomed to out in the true Kalahari.

We rattled on into Lobatsi and hotel meals and baths and ease, but most of us with a deep regret that we could not start all over again on our 2,000 miles of close acquaintance with sand and shrub, away from people who were always wanting something for next to nothing. For those of us who were new to the Protectorate it was a journey full to the brim with pleasant, or at least interesting, experiences, and all the more so because we were on a mission of inquiry, taken very seriously, but with lighter interludes, such as goodbye dinners, chats round the camp-fire, and in an atmosphere of lasting friendship as we grew to know each other.

As to the enquiry, it ended with a mighty *IF*. There was

not the least doubt in our minds as to the potential value of nearly all the country we had seen, but always and insistently prefaced with the condition, 'if we can find water beneath the surface'. It is, therefore, necessary to say something about that qualifying IF, for which we will have to make an excursion into science in the last chapter.



*Impala*





## CHAPTER VII

### *Personalities of the Past*

THUS far we have traversed the emptier parts of Bechuanaland Protectorate under the heading of 'the Kalahari'. We have seen that this is not a territorial name with clear boundaries, and in truth the Kalahari sand reaches far into the two Rhodesias and into the Transvaal. It is therefore quite appropriate to include the Railway Zone of the Protectorate under the term, and that takes us to the more populated part of the Territory.

It will be seen from the map that all this area is split up into four main native reserves, though a small amount of the land has been alienated in some degree to Europeans. The eastern Kalahari, therefore, consists of these tribal divisions stretching westwards from the railway line and therefore becoming increasingly arid as one goes in that direction. The four main tribes are the Bamangwato, the Bakwena, the Bangwaketse and the Bakhatla, and these divisions are in some measure artificial, since all these Bechuana peoples are derived in the first place from the Basutos and only migrated thence shortly before the European—in the persons of the Boers and the British—reached the Kalahari proper. It is

important to remember that these Bantu tribes preceded the European by only a few score years, since it helps us to realise that they are no more truly indigenous to the Kalahari than he is. To them, as to the Bushmen before them, it was indeed a place of refuge.

As far as history tells us, it was Sebituane who led the most recent section of the Basuto into the Kalahari early in the nineteenth century, where he conquered the moderately well-defined tribes already there. As usual, conquest for the Bantu meant assimilation of the conquered, often as serfs, but sometimes almost in the relationship of partner. Also as usual in these events, the invading groups tended to split up again or shed off sections who went further, leaving the main body and settling as far as Bantu tribes have ever settled. In this case, Sebituane, with his nucleus of warriors, crossed the Kalahari with heavy losses, and reached the Okavango Triangle, where he found, and quickly subdued, the Batawana tribe. From there he passed on to the Zambezi. In this territory he settled down, and his Makololo warriors, having subdued the Barotse, made themselves complete masters of it.

Sebituane just comes into historical record, because Dr Livingstone got through to him after several attempts and they became firm friends. In his way he was as great a leader as Mosilikatse of the Matabele, and as he died when he was well under fifty years of age, his deeds were done within a shorter compass. According to Livingstone, 'his manner was cool and collected and he was more frank in his answers than any other chief I ever met. He was the greatest warrior ever heard of beyond the colony, for, unlike Mosilikatse, Dingaan and others, he always led his men into the battle himself. . . . He was not the son of a chief, though related closely to the reigning family of the Basutu.' As a young man he took part in the surge of the Bantu nations towards the west of the present Orange Free State, when in 1824 they were driven back by the half-caste Griquas, armed with muskets, at Kuruman.

He gathered a small company of followers and fled towards the north. There he met the Bechuana tribes assembled to 'eat him up', but he overcame them and attempted to settle down not far from Molopolole. Here he was attacked at

different times by Boers and by the Matabele, and he decided to cross the Kalahari. Livingstone compares his narrative to the *Commentaries* of Julius Caesar and to the history of the British in India, since he was always forced to attack the different tribes. For instance, he had hardly settled down on the Zambezi with his Makololo when the Matabele came against him, but he repulsed them on several occasions with a combination of courage, leadership and guile worthy of the great Roman Consul himself.

Yet he was in a sense a man of peace, and liked to govern rather than to ravage the conquered. Livingstone was only just in time to meet this Bantu Caesar, who died from a lung complaint a few weeks later. His death was a great loss to Livingstone's own plans, which would have progressed much faster under Sebituane's patronage than they did under his successor's.

Sebituane having passed on to the north early in the nineteenth century, the main Bechuana tribes were free to pursue their own way again—which in European eyes was not exactly an enlightened way.

The Batawana of the Ngamiland area, for instance, whom Livingstone called a 'half-tribe of the Bamangwato', had been conquered by Sebituane before he went north to the Zambezi, and their chief was in Livingstone's time a young man called Lechulatebe, whose uncompromising attitude to white and blacks alike we have already mentioned.

The main and original Bamangwato tribe was on the eastern side of the Kalahari under the rule of Sekgoma I, the 'Sekomi' of Livingstone's journals, in which he figures as a rather unpleasant character, resolute in rejecting Christianity and anything else the white man might bring, except guns. Perhaps the good Doctor did less than justice to this very astute chief, who was only doing what his far more famous son, Khama, did for most of his life—namely, protecting his own tribe, both by arms and by diplomacy, from the encroachments of the Matabele to the north-east, the Boers to the east and the British from the south. When we look at Sekgoma with the eye of history now available to us, we see that he was just the combination of fighter, schemer and ruthless ruler which alone could preserve the tribe from conquest, if not extermination.

In fact, it is not difficult to recognise in Sekgoma, as in Khama and Tshekedi, his successors, a devotion to the welfare of the tribe which really outweighed or at least rendered pardonable the faults which all three possessed. From the outside point of view, whether it be that of Matabele or Boer, missionary or trader, hunter or administrator, all three have been 'difficult' in one way or another, awkward to handle, stubborn and forthright, but in most cases their attitude has been dictated by their defence of the well-being of their tribe.

We note a curious progression in their method of rule. Sekgoma I was entirely feudal in the Bantu sense of that word: his subordinate peoples, the Bushmen, the Makalaka and the Bahurutsi were just plain slaves, polygamy was a chiefly luxury, beer-drinking was a natural relaxation permitted to all who could afford it, and witchcraft was paramount at every level.

Khama, a Christian and a far-seeing man, with more self-control, gradually emancipated the slaves till they were at least no more than serfs; he practised monogamy, abhorred and all but extinguished beer-drinking, and abandoned all faith in witch-doctors. He also, in his declining years, permitted a show of democracy.

Sekgoma II, his senior son, after almost a lifetime of fierce quarrelling with his father and much ill-health, was somewhat of a reversion, especially over alcohol, but when after his four years' reign Tshekedi followed him, as regent for his young nephew, Seretse, a firmer hand than ever took up the reins of chiefhood. Again the prime factor in all the actions which he took that brought him into conflict with the Administration was the welfare of the tribe. His complaint was that he never knew where his powers ended and those of the Resident Commissioner began, and he can hardly be blamed for saying so. The incident of the flogging of the white man, already mentioned in the first chapter, was a very good example of this difficulty, and the judgment of history may well award as much blame to the Administration for panic action as to Tshekedi for sentencing a white man to punishment which the Administration refused to inflict.

Of Khama and Tshekedi in this dynasty, and possibly of Sekgoma I, it may be said that they were ready to sacrifice

their own position for the sake of the tribe. Khama, in his twenty years of trouble with his son Sekgoma, at least once offered—or, it may be, threatened—to abdicate, just as his father before had made curious arrangements for retiring in favour of the then pretender, Macheng, neither of them very firmly seated and both rather skilfully handled by Livingstone's friend, Sechele, head of the neighbouring tribe of the Bakwena. History has repeated itself recently when Tshekedi retired from his function as Chief Regent during the Seretse troubles and settled down for a while with the Bakwena.

Yet in following out the history of the Bamangwato in the century of which we have accurate record, we cannot but recognise a prevalence of quarrels over the chieftainship, and a readiness for disloyal factions to arise. There was constant plotting and intriguing, not at all unlike parts of our own medieval history, with pretenders to the chieftainship, insurrections of prominent leaders (the barons of the African analogy) and even a king-maker handy in the neighbouring tribe.

It is of some importance for us, the protecting power, to realise that the Tshekedi-Seretse business is not unique. All the elements of the dissension have been present before: the disposal of cattle, which one side claims as belonging to the chief as chief and not as an individual, the voluntary or forced exile to neighbouring areas, even trouble over the choice of a wife. Most characteristic over the century are the frequent changes of mind on the part of those who attend the *kgotlas*, those curious meetings which are ill understood by our more constitutional minds. They are certainly not parliaments in our sense of the word, yet they are indicators of the feelings and opinions of those who attend. On the other hand, *kgotlas* are easily 'packed' by the side which is the more ruthless and ready to use intimidation. Under a strong ruler, they perhaps provide a very suitable method by which he can sense the feelings of his tribe and announce his decisions, which are possibly influenced by the speeches of the chief men. When, on the other hand, there is tribal dissension the *kgotla* may be a very misleading guide to the real wishes of the majority, and the swaying of the meetings first overwhelmingly against Seretse and then solidly for him is a good instance.

One might almost say that the Bamangwato are unstable in their choosings, and quite ready to use unfair means to sway the administration to their temporary way of thinking. The *kgotla* is in fact an ideal instrument for the rousing of passions by skilful oratory, and nearly as ideal for a subversive element using guile and intimidation. It so much resembles the 'moot' of our medieval ancestors that we ought to understand better than we seem to do that it is far from being a modern democratic institution.

In spite of periodic troubles over the succession, there is such a thing as tribal custom, and at times it can be adhered to strongly. Thus it appears that when Sekgoma II died, leaving an infant son, there was never any real doubt of the junior son of Khama, Tshekedi, becoming chief regent. He was to be regent only on behalf of the youthful Seretse, and has never shown any wish to be anything else.

In the history of the Bamangwato, then, we have examples among the black races which can be paralleled within reason from our own history. I hesitate to choose any analogy in our own royal succession for Khama himself, but he is a shining example of Bantu leadership and must stand on a level with the great Moshesh of the Basuto. Certainly it was Khama who, almost single-handed at times, warded off the Matabele from destroying his tribe and the wandering Boers from eating up his land, and (a more difficult task still) averted the good intentions of the British Government in handing over the Protectorate to Rhodes's Chartered Company. He could only carry through these activities because he was an all-round man. He had to fight the Matabele, and it is recorded that he himself inflicted a wound on Lobengula in one of their battles. He had to be ready to fight the Boers, but with them he used mainly his powers of diplomacy and a show of force on his frontiers. He always did his best to avoid an actual clash with the marauding Boer hunters, but he never hesitated to make firm edicts against allowing them in or through his dominions.

Having decided at an early stage that he must seek the protection of one of these three encroaching elements, he soon chose the British rather than the Boer; and from that he had to proceed with the greatest delicacy to acquire protection

from the British Government in England, by-passing the colonial government at Capetown. It was a wise move on his part to come in person to London to see the Great Queen, though in doing so he had to prevaricate with the redoubtable Dr Jameson and incur his wrath thereby.

His fight against the evils of beer-drinking and the selling of spirits by white men was extraordinarily successful, perhaps because by his system of information he could deal swiftly with any law-breaking. Similarly, in education and the adoption of Christianity, the way was chequered but persistent. It must be chiefly due to Khama and to his son Tshekedi that the Bamangwato of to-day strike the white visitor as the most progressive of all the tribes of Bechuanaland and the two Rhodesias. In spite of their internal strife, their economic progress has been steady and their tribal prestige has had only temporary setbacks.

Chief Khama is particularly interesting because his long life (he was over ninety when he died) spanned that interesting period of years between Dr Livingstone (whom he saw when he was a boy) with his ox-wagons, and the modern era of railways and motor traffic, when desert conditions no longer prevent men from crossing the country if not quite at will, yet safely enough at the right season.

We have many pictures of this notable chief from the various travellers and administrators who came in contact with him. In person he was tall for a Bantu, nearly six feet, and evidently had a remarkable expression. As described by Mr Gillmore, for instance, who met him in the 'seventies, he was 'of an excellent figure and as upright as if he had been drilled. His head he carries very erect, and his features are small but regular, with a very pleasant expression of countenance and a very intelligent eye. His hands and feet are remarkably small and well-formed, the former like a lady's on account of the perfect nails and softness of skin. In manner he is thoroughly self-possessed, very quiet and neither obtrusive nor bashful. In appearance he is excessively well-bred, and in his language courteous and considerate.' H. A. Bryden, writing twenty years later, meets Khama and says: 'It seemed to be perfectly natural to be shaking hands with this tall, slim gentleman with the refined face, friendly smile, and shy yet self-possessed

manner.' Of course, both these gentlemen were received by Khama because their purpose was friendly and they had the backing of the Christian missionaries who lived with him, and the descriptions of some of the elephant-hunting Boers might be quite different if we could quote them.

Of the Bakwena to the south of them and the Bangwaketsi still further south we have little space to speak. The latter tribe has had the great advantage of two chiefs—both named Bathoen—who have in their way been as great as Khama and even wiser than Tshekedi. Every administrator in the Territory speaks well of the present Bathoen II, whose home has been at Kanye.

As one might expect in view of their common origin, it is difficult to distinguish between the people of these Bechuana tribes. The more detailed studies of other writers do note differences, but many of these are superficial and due frequently to the influence of the reigning chief. Thus a traveller receiving a welcome from one tribe and a rebuff from a neighbouring one is very liable to describe them as different in character and even in appearance.

To the casual visitor, as I was, there seems to be no fundamental difference in the true Bechuanas throughout the territory, but a very decided difference between them and their former subject peoples. The Makoba of the Okavango Triangle have already been described. The most natural route to this Triangle from the east has always been the Botletle River; consequently, we find along that river a mixture of the Makoba at one end and the Bahurutsi at the Makarikari end.

All round the Makarikari were the wandering Bushmen known as Masarwa. These tended to be tall and black, quite distinct in every way except that of livelihood from the dwarf yellow Bushmen of the west. They were completely subordinate to the Bamangwato, the tribe in closest touch with them, and seem to have acquiesced in complete slavery or serfdom provided they were allowed to roam in their accustomed manner, living off the game, but paying tribute of all the ivory and skins they captured.

To the east and south-east of the Makarikari Depression we find the apparent home of the Makalaka, who even now are a



semi-subject race or tribe to the Bamangwato, outnumbering their pseudo-masters and appearing to be intermediate between the Masarwa and the Bechuana. They are tall and black and have a certain dignity of attitude and bearing which does not seem to fit with their status in the tribal territory. It seems possible that the tribe, being less naturally warlike than either the Matabele or the Bechuana, were cowed and illtreated for the best part of a century and are only now beginning to have the recognition which is due to their intelligence and industry. It seems reasonable to suppose that they may have been an offshoot or even a section of the Mashonas, split off from the parent tribe by the irruption of the Matabele. One of our personal boys was a Makalaka, and he was easily picked out from the Bechuana boys by his appearance and character.

The Ba-Kalahadi, already mentioned, seem to be a mixture of dominant Bantu with an infusion of Bushmen, and it is customary to regard them as the remnants of many past incursions into the Kalahari of temporary refugees from the east and south. They are small, like the true Bushmen, and have the typical peppercorn hair, but they are blacker and of more settled habits, some of them growing crops, while all keep goats and, more recently, even some cattle.

In this brief review of a very composite if scattered population, it will be obvious that scant justice has been done to a subject of great importance, for it is the people in it that claim first attention in any region. Since my visits were short, I have had to supplement my experience of the inhabitants with the records of many former explorers and administrators. In reading their narratives, one finds striking but perhaps natural differences in the impressions they received. One is tempted to give greater value to the testimony of missionaries than to that of hunters, and still more than to that of traders; yet, after reading all that was accessible concerning the Kalahari, I should not entirely uphold such an analysis.

To sum up, it would seem that the Bechuana peoples are fundamentally contented, if wayward in their loyalty to their own chiefs. Their great fear is that they should pass out of the protection of the British Government, and they are liable to go to extreme lengths to avoid any transfer. This was

shown in the speeches of Khama to the Marquis of Ripon when he and Sebele and Bathoen came to England in 1895. In the Great White Queen they saw their one hope of avoiding absorption, if not worse, either by the Transvaal Republic or, later, by Rhodes's Chartered Company. Everywhere during my visit I sensed this same deep loyalty to the man they call Kingy George, and the loyalty is probably redoubled now that their ruler far over the seas is another Great White Queen.

It is not our business to peer into the future from the political point of view. Nevertheless, it must be understood that the Protectorate cannot go fearlessly ahead with economic development unless there is more certainty as to their political future than exists at present. This book should have made it clear that developments are possible in the Kalahari, but they are far beyond the means and the intelligence of the inhabitants. Therefore, if real progress is to be made it must be by means of some kind of partnership, in which the capital comes from the white man, supervision and protection of rights are controlled by the Government, and the labour is provided by the people. I believe that the fundamental common sense of leading Bechuanas such as Tshekedi and Bathoen would make some such partnership fairly simple to carry through. The native people understand cattle, but realise that the white man understands them better still, and they will note as quickly as the white man the value of such things beyond their own provision as fencing, water-points, pasture management and marketing systems.

It must not be forgotten that there are two sides to a partnership, and that we are apt to assume that the white man's good management can be taken for granted. There have been many instances of the white man's intrusion into tropical agriculture, and we must confess that there is nearly as much on the debit side as on the credit. Broadly speaking, the larger the venture the less successful, and any ranching on a large scale in the Kalahari must be classed as vast. The safeguard for any large venture is, of course, slow growth, by means of pilot schemes. In this case the penalty for bad management would unfortunately be not merely financial failure but, in the worst circumstances, even desert conditions—a dust-bowl, in fact. Nevertheless, with large capital able to withstand drought

periods and a run of years without any profit, there seems to be no reason why ranching should not make its contribution to the territory and to South Africa in general—always provided that water can be found in sufficient quantity to give dispersed water-points. Once water is assured, the rest is quite simply a matter of management.

The Press in England has been rather apt to welcome the prospect of ranching in the Kalahari as a contribution to England's own meat supply. It can only affect this by indirect means. Partly because of the lack of communications from the Kalahari to the seaboard, and partly because of strict regulations as to the importation of meat from a country not under full veterinary control, there will be no prospect of 'beef from Bechuanaland' reaching the English market for a long time to come.

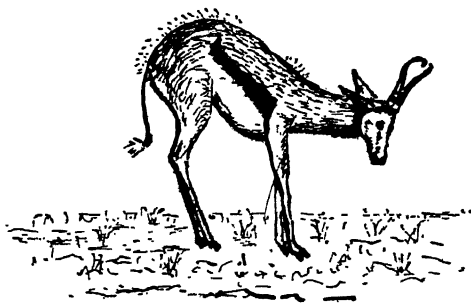
On the other hand, the markets in South and Central Africa can absorb a great deal more meat than they have had hitherto, and as communications improve there will be an increasing need of beef in the tsetse country to the north.

We may look at the matter in another way. Here in the Kalahari there is at present the equivalent of possibly 1,000,000 head of cattle, represented by the antelope tribe. These, it is true, can migrate long distances, can exist to a great extent on the morning dew, and can endure lean seasons, as domestic cattle cannot. But they do this without any real surface water except that to be found in the uncertain pans, and one may therefore argue that with an artificial water-supply from subterranean sources the production of meat in the shape of domestic cattle should be possible. It should even reach proportions in excess of the equivalent above-mentioned, because the grass is never fully used by the game, because some reserve, in the form of hay, etc., could be arranged, and because the essence of pasture management is in the long run to improve the pasture.

If we look round for analogous situations in the past, we can find them in parts of central Australia and of the south-western states of America. The degree of aridity was comparable to that in the Kalahari, the scarcity of population was similar, and so at first was the long distance from any market. In all these cases too the major factor was the cheapness

of land, and the fact that it was producing nothing except game when first discovered. The mistakes made in these places may well serve as a lesson for the Kalahari.

Looking forward still further, the expansion of population which will inevitably come in the tribal reserves must be provided for. Again all depends on water-points, for the reserves are ample in area already and inadequate only from the point of view of water-supply. If ranching on a large scale by a large corporation proves successful, the same thing can be done in the native reserves, provided that the control of the land is firm and intelligent. In general, the function of the eastern Railway Belt will be to produce grain and that of the western parts of the reserves will be to produce beef.



*Springbok leaping*

AT TOP OVERLEAF: *Makarikari Salt-pan*



## CHAPTER VIII

### *Excursion into Science*

SINCE the future of the Kalahari depends on finding more water than lies on the surface in the rainy season, we must now consider what likelihood there is of finding reserves underground. That really means finding out how much, if any, of the rainfall gets into the sand and stays there. We know very little about it, and indeed it is not nearly as easy to find out as one might imagine.

The evaporation is, of course, tremendous, probably the equivalent of at least six feet of water in the year. It will be sufficient to remember that it is from ten to twenty times the actual rainfall, so that if, for instance, the surface were clay instead of sand, permitting no water to sink in, the rainfall would entirely dry up within a few days or perhaps even hours of its falling. Alternatively, if the rainfall in the Kalahari were of the type we usually get in England—namely, gentle showers falling over a considerable period of time—the same thing would happen: the rainfall would evaporate before it had time to sink below the surface.

We know there must be water in the sand because grasses, bushes and trees all grow there. The grasses, of course, use

the water in the upper layers of the sand and wither after their season of growth. The roots of the shrubs go further down and can tap a lower layer of moisture, while those of the trees go lower still. We know more than that, however, from the fact that there are many trees of considerable age, so that the water they rely on in the dry season must be there deep down in the sand to enable them to survive through the droughts which visit the territory every few years. The grand question is whether somewhere below the reach of these tree roots there are reservoirs of water which could be reached by drilling. This has been proved to be so in the northern part of the Kalahari, where the rainfall is over twelve inches and the trees are up to forty feet high. It remains to be proved whether it is also the case in the south-western section, where the rainfall is under ten inches and shrubs tend to take the place of trees. Let us do a little guessing on the matter, aided by our knowledge of certain rather strange phenomena in the movement of water through sand and soil.

When a thunderstorm brings down, say, a quarter of an inch of rainfall in a short time upon the surface of the fine sand of the Kalahari, momentary puddles do form. In fact, they remain longer than one would expect. This is partly because the water has sealed off the air enclosed between the grains of the dry sand below. We are familiar with this phenomenon on beaches, where the sand is nearly always much coarser than that of the Kalahari. As a wave sweeps up the beach it imprisons the air in the dry sand below, and as the wave recedes the air comes up in myriads of bubbles, making a hissing sound. In finer sand the air cannot so easily get out through the surface sealing of water. This, then, delays the sinking in of the water. The two phenomena which help the sinking in are the weight of the water—that is to say, gravity—and the action of capillarity—that is, the creeping of water along minute cracks—just as a drop of water makes its way through a lump of sugar. If the particles are so much smaller than sand that they can be called clay, there is not room between them either for water to go down or for air to come up. Clay is, therefore, impervious to water and almost impervious to air.

Going back to our short thunderstorm and the puddles, which gradually sink in, we can see that the upper sand is

well wetted to a given distance from the surface. Ordinary fine sand has a porosity of about 30 per cent., which simply means that a given volume of sand will hold about one-third of its volume of water without any change in total volume. Consequently, if the shower produced a quarter of an inch of rainfall and none was lost by immediate evaporation it would wet three-quarters of an inch thickness of sand. If we sum together all the thunderstorms of the rainy season, amounting, say, to ten inches of rainfall altogether, we should have thirty inches of wet sand at the end of the season if there were no loss by evaporation. These figures convince us that it is probable that comparatively little water finally gets below the reach of roots, and indeed it may take a long time to reach that level. There is every reason to suspect that the evaporation going on during and immediately after a rainstorm in a place like the Kalahari draws off up to 50 per cent. of the rain which has just fallen, so that our ten inch seasonal rainfall has become five inches. Whether some portion of those five inches can finally reach a reservoir layer deep down in the sand obviously depends very much on how fast it sinks and on whether that rate enables it to escape the clutches of the roots of plants on the way.

To illustrate these points, we may mention the result of certain shallow drillings in the sand of the northern part of the Kalahari, where the rainfall is over twelve inches. In one drilling, for instance, made about the middle of the wet season, the tubing passed through two feet of damp sand and then entered dry sand. This two feet of sand presumably represented the water residue which had sunk in to that depth in the first half of the rainy season, and at that level it was, of course, exposed to the robbery of the roots. As the sampling continued, some eight feet of dry sand was passed through, and then damp sand was again reached. This dampness was presumably the depth to which the rain of a year earlier had reached. The sampling could not be pursued deeper than twenty-one feet, all of which was damp. In that area, therefore, it looked as if the residue of each year's rainfall was passing down to a reservoir. This was proved in other ways by the fact that in that area borings struck water at about forty to sixty feet down.

We must here remark on the difference between what we should call wet sand and damp sand, but what a soil expert would call saturated and unsaturated sand. Wet sand has so much water between its particles that it will run into a hole made through it. Damp sand, on the other hand, has no excess water and therefore a hole made through damp sand will not fill with water. In the damp sand the force of capillarity keeps the water as a thin film on the sand grains, not allowing it to escape unless some form of pressure is put upon it. In the Bushmen's sip-wells the pressure of the atmosphere is unwittingly used by the native to push some of that film off each grain into the space surrounding the end of his sucking tube.

If the Kalahari sand were everywhere loose and unconsolidated it would be easy to put to the proof the question whether water reservoirs exist. There is, however, a complication in the fact that the rainfall of ages past has dissolved out some of the lime and the silica from the upper levels, carried it down to lower levels and deposited it as layers or irregular masses. When this concretion, as it is called, is mainly of lime, it is known as calcrete. Though dense in some places it has many cracks and holes in it, so that in fact it is usually a porous layer. When the material is predominantly silica, it forms a rock known as silcrete, which is very like our English flint, has few cracks and fissures and may even be impervious to water in places. Both are naturally hard to penetrate when sinking a well. The mode of their formation is not fully understood, but it appears to be related to the action of capillarity, by which water creeps up between the sand grains towards the dryer surface sand in the dry season. Having been in the sand for some time, this film-water, as we might call it, has much dissolved material in it, and as it slowly dries out this is deposited as a kind of cement between the grains. The action is probably not quite so simple as this, but as an explanation it will serve our purpose here.

It is natural, therefore, that in regions of higher rainfall, as in the northern area, these calcretes and silcretes either do not occur or occur only at considerable depths. In the south-west Kalahari, on the other hand, with the lower rainfall and less tree-cover, the calcrete may be formed very close to the surface,



and particularly in exposed places, such as the tops of old sand-dunes. We do not know whether the function of these rocky layers is to protect water or to prevent it from getting down to safe depths, but it is a fact that the few well-sinkers in the territory say that water can usually be found just below calcrete, and even below silcrete if it is not too dense to be penetrated. In fact, some of the old and experienced Afrikaner farmers assert that the best site for a well is on the top of a sand-dune where the calcrete is exposed. The balance of evidence, therefore, seems to be on the side of some fraction of the rainfall getting through the sand and the calcrete to depths beyond the reach of roots. The fraction may be a very small one, and in areas of seven-inch rainfall it may be significant only in the occasional year that is rainier than the average, or where a very heavy local storm has happened to take place.

Let us assume for the moment that there is a slow gathering of sub-sand water even in the dryer areas and consider what happens to it. We know that under the sand there is the ancient surface of rocks which are known to be old and may be fissured, especially if they are slates. Where that is so, the water will presumably escape down into the hard rock, where it can only be reached by drilling and where any bore must be lucky enough to pierce a fissure if a reasonable supply of water is to become available. On the other hand, there may well be a layer of finer clay-like material between the free sand and the old surface, in which case the water may be held at that level for long periods. It might then be called fossil-water. Naturally, a slow seepage of this will go on down the ancient valleys, so that in certain places there should be much more water than elsewhere. If any such valley is blocked by clay or other obstruction, this fossil-water will be salty and possibly of little value, as was found to be the case in several bores in the northern section. The problem is how to discover, first, that there is a reservoir of water and, secondly, where it is most likely to occur in quantity and quality sufficient for human use. There are two schools of thought on this matter: one holds that it is better to go in for expensive drilling into the basement rock in the hope of finding fissure-water, and the other prefers to do more and cheaper boring through the sand

alone in search of less water per well, but a more even distribution over the area. It is to be hoped that in time there will be geophysical methods of finding where these reservoirs are, but at present the siting of bores is to some extent a matter of chance, with the prospect of at least one in four drillings yielding 'blanks'.

We cannot separate this problem of sub-sand reservoirs from the many flat and low areas in the Kalahari commonly known as pans. These may be of all sizes, but generally speaking they are rarely less than several hundred acres and may be up to five square miles. Some are salt-pans and others fresh, and all alike are covered with finer material than the Kalahari sand itself. Fresh pans grow a short, sweet grass and are the haunts of vast herds of springbok. Even the salt-pans may have a border of sweet grass. The origin of these pans is still under discussion, but for the moment we are concerned with their function in holding water. They are less pervious to water than the ordinary sand, but the water soon sinks below the surface, where it can be tapped by shallow wells, which must not penetrate the clay bottom or they will be useless. There is reason to believe that these pans tend to occur along ancient water-courses, and water from one may seep through into the next one lower down. If this be true, then there should be more chance of sub-sand reservoirs along a line of pans than elsewhere.

To sum up the matter, we may say that while we rather expect that sub-sand reservoirs exist we have slender evidence for them at present. There is need, therefore, for a good deal of reconnaissance drilling, combined with a very careful study of the materials penetrated, rate of seepage through the sand, occurrence of calcretes, etc., and many other related matters. For these reasons it will hardly do to send out drillers alone: there must be geologists with them to observe and analyse results. The drilling to be done would be shallow and usually through sand and calcrete, and since the bores are exploratory they need not be of large diameter in the first place. A drilling equipment consisting of a combination of jet-drilling, by air or water, together with apparatus for changing to rock-drilling would be required. Jet-drilling by water through sand is very rapid, but as soon as a hard layer is encountered there

would have to be an easy switch to the appropriate technique. Such a reconnaissance, extending over a couple of years, would be expensive, but there seems no other way of solving these problems and making what might be called a rough map of the underground water resources of the Kalahari.

It is not generally realised that for stock purposes—that is, a cattle industry—the actual amount of water required is not very great, but it is important to have it well-distributed over the stock-raising area. We can reduce it to figures with some advantage. A beast requires about ten gallons of water per day, though naturally less in the rainy season or when the grass is young and lush. We may therefore allow 3,000 gallons per beast per year. In country like the best grass-land of the Kalahari we may allow twenty acres to the beast, which means some thirty beasts to the square mile. Cattle can walk up to four miles to and from water, so an area of sixteen square miles is a useful unit which will accommodate nearly 500 head of cattle. This herd will require 1,500,000 gallons of water in the year. This sounds a formidable amount, but is only 5,000 gallons a day, so that the bore must produce at the rate of 200 gallons an hour. It is interesting to convert this amount into a fraction of the total rainfall over the same area of sixteen square miles. Allowing a rainfall of six inches per year, the total amount of water falling is about 5,000 acre-feet (an acre-foot is the amount of water that will cover an acre to the depth of one foot). If 1 per cent. of this rainfall escapes beyond the reach of roots it will amount to fifty acre-feet, which is equivalent to 12,000,000 gallons. We can see, therefore, that to provide the 1,500,000 gallons required on our unit area there would need to be little more than one-tenth of 1 per cent. of the annual rainfall conserved in the sub-sand reservoir.

But we must not assume that all the water in this supposed reservoir can be reached, and in honesty we must confess that at least half of 1 per cent. of the rainfall must be conserved if we are to keep that number of cattle on the area. On the credit side of the matter we can remember that over small areas there may be rain in an occasional year far in excess of the average seven inches, and the faster it falls the more will get down into the sand. The chances that such reservoirs

will be found are, therefore, good enough to encourage us to look for them.

That is one way of approaching the problem of securing water, but there are other ways to be mentioned: some of them are well known in other parts of the world, but as yet hardly tried in the Kalahari.

In lands where there is a fraction of clay in the soil, so that rain will run off it, the commonest and almost universal means of conserving water is to dig a tank or scoop out a dam in the lowest part of any small catchment area. This method is almost ruled out in the Kalahari by its almost uniform covering of sand, yet that is probably why the pans once formed get sufficient water to keep the grass alive—if scarcely flourishing—in the dry season. The rain which has fallen on the surrounding sand-ridges has sunk in to some extent and seeps slowly out to the lower-lying pan, the base of which is fairly impervious.

Here then is a chance of using the surface-tank method, for if careful digging is done down to the impervious layer, but not beyond it, a large tank can be made which will be fed for at least part of the year by the seepage. The scheme has the advantage that it can be tested by sinking a shallow well in the first place, provided that measurements can be made during the dry season to see what influx if any there is to take the place of water used or evaporated. The idea would only be fruitful if there were found to be a steady seepage, and the dimensions of the tank could then be related to this rate of seepage. The very fine sand of the average pan will permit only slow seepage, and therefore a large surface must be exposed to allow a useful rate of supply. It is really no more than a well, expanded so that more water can enter it than can do so in an ordinary circular well of limited diameter, and it can take the form of a long trench, in which case it would not be too difficult to cover it over to reduce the evaporation.

Then there is the method of saving a high proportion of the rainfall by means of what is called an apron catchment, of which the ordinary tin roof of the tropics is an excellent example. In storm rainfall the run-off from such roofs may well be over 90 per cent. of the water received.

There is a great need for further experimental work to find

a means of providing a smooth impervious surface to sand from which a high percentage of the rain can be run into a tank at the lowest corner. For Kalahari conditions the most hopeful materials are lime burnt from the calcrete made into a mortar with the surface sand and laid on as smoothly as possible. This would be made still more impervious with a coating of a tar compound, which would also be necessary for expansion joints. The same material would be used for the tank which would receive and store the water, and it is the tank which costs the most, since it has to have the capacity to store enough water for eight months for whatever number of cattle is to be based upon it. Apron catchments are, in fact, much more suitable for areas with two rainy seasons, such as Equatorial Africa, than for those with a single one where the storage must last for from seven to nine months. The apron is, of course, laid on a sloping surface and well up on a sand-ridge, so that the tank may also be on the slope, whereby the water in it may be led by gravity pipe to the drinking troughs.

The experimental work should be directed towards the cheapest method of forming the water-shedding layer, and might well be made to follow what Nature has done already in forming the silcretes. If sand is sprayed with a solution of water-glass (sodium silicate) followed by a spray of calcium chloride, a film of what may be called 'artificial silcrete' is formed round each grain. This might not be cheap enough done on the large scale, and probably the more elastic covering given by using tar compounds would be better in the long run. Ant-hills are only found in the Kalahari where there is prospect of finding water by well-sinking, otherwise one could use dry ant-bed thickened—or, rather, puddled—with used engine-oil, which makes a very efficient water-shedding material, though it needs more maintenance than a compound which sets hard.

As we have seen, the evaporation in the dry season—even though it is the cool season for the most part—may well amount to several feet, and there are hardly any practicable ways of reducing this loss from a large open tank. Supposing for instance we had a tank ten feet deep in which at the end of the rains we had three feet of water. That would all have dried up in the next three or four months, besides becoming polluted with dead birds and insects and rubbish blown into it. On the

other hand, if we filled in the tank with sand to the top the three feet of original water would saturate the lower eight or nine feet, and be kept from evaporating by the top foot or two of dry sand, which illustrates the maxim that the best way of keeping water in a dry country is underground in the soil. A large pipe or a small well in the corner of the tank would provide a means of taking water out.

Perhaps we have said enough to show, first, that we know very little as yet about what natural storage of rainfall there is in the Kalahari and, secondly, that some thousands of pounds spent in investigating the problem might be money well spent. Some might say that this would be money wasted, for it must be realised that many people have concerned themselves with this problem already. The most eminent of the local geologists is firmly of the opinion that the sand will never yield water, so that all bores must be drilled deep into the underlying rock.

If the trees and the shrubs can get water to last them over a drought, man ought to be able to do so also. One might go further and say that if the Bushmen can find water so should we. His sources include his sip-wells and his melons. The sip-well depends only on damp sand not too far down from the surface, and we can imitate the old woman's technique very easily and efficiently with a metal tube and an exhaust-pump. It is perhaps asking too much of credulity to believe that we could find enough water for stock by sip-wells, but we are not entitled to spurn the idea until we have given it a fair trial. In the same way, we cannot say that the cultivation of the *tsamma* melon as a source of water for cattle is absurd until we have proved it to be so. After all, it is the means by which Nature keeps her antelopes going, and we had far better imitate her than defy her.

Here, then, are a number of things man must study and experiment on if he wants to make use of this strange Kalahari which is so beckoning at one time of the year and so forbidding at others.

And now we may ask what the future, and particularly the distant future, holds for the Kalahari.

The immediate future is very much affected by possible political developments which are not within the province of this book, but the ultimate destiny of the country, as of any country,

is independent of the political field, for someone at some time will develop whatever resources the country possesses.

The Kalahari has, so far, been without that fillip to development for a young country, the discovery of minerals. With the exception of little Nyasaland, it is the only territory in all the southern half of Africa which has not yet got its start from mineral wealth. Diamonds, gold, copper and coal are still the solid core of prosperity from the Cape to the Equator, the magnet which has attracted European capital and brains, and which has so far been almost the sole contribution of southern Africa to world commerce. It is a curious thing that the Kalahari, so spacious and so similar in geological history to its neighbours, should not share in these gifts of the gods to pioneer development. There is copper just over the border to the west, diamonds not so far to the south, gold on the east, and Wankie coal on the north-east. The fact is that there probably *are* mineral deposits in the Kalahari, but how are we to find them when there is an almost universal covering of sand to hide all surface indications?

The one useful mineral we do know of in the Territory is coal, perhaps the most valuable of all in the long run. It has been found, not far below the surface, near the Bamangwato capital, Serowe. It has not yet been 'proved', which is the mining engineer's term for a complete survey to find its quality, amount and ease of access, but there seems no doubt that it is similar in age and not much inferior in quality to that of the Wankie coalfield.

One of the reasons why it has not yet been proved came out in a conversation I had with its wise ruler in 1946. I was remarking on the sad sight of there being no trees within five miles of his capital and of the ox-wagons coming into the town with wood from the Kuchwi Gorge, twelve miles away. The Regent Chief Tshekedi at once said that it was not a sad sight, but quite a natural sight, and nothing to grieve about. I could not let him get away with so patent a subterfuge for changing the subject, and said very gently, 'You know, I suppose, that you have plenty of coal underground almost where we are standing?' He was much too diplomatic to look annoyed and merely replied that he knew it well enough, that his people much preferred wood for their fires, that there

was not enough need for fuel to make it worth while, and so on, none of which sounded quite as genuine as it should have been. As the conversation progressed, we came nearer and nearer to the real reasons why Tshekedi did not want to develop the coal, and as there is no secret about it we may state them.

Like the wise Khama, his father, he did not want the white man flooding in to upset his people and claim first the wealth and then the land which produced it. In Khama's day it was ivory that the white man wanted: now it is coal. There were very good reasons in his mind, with which indeed I had to agree, why for the present it was better to leave the coal unproved. In fact, it was our conversation on coal which convinced me that here was a man as able as his father to choose the safest path for his people and, given authority, as steadfast in keeping to that path.

Yet he was ready to take advice about the coal and, seeing perhaps that I was friendly towards his people, he asked me to get into touch with coal experts in England and ask their opinion of his coal. The development of a coalfield is not like finding gold or diamonds, which is usually begun by individuals picking out the best spots and finally handing over, unwillingly no doubt, to large companies with capital to mine on a large scale. With coal the capital must come first and the company has to face vested interests, monopoly rights, and all sorts of possible hindrances to its smooth start. Nevertheless, if the coal is good it will one day be mined, and will prove of much more steady and lasting benefit than gold or diamonds.

For these, too, prospectors have been as busy as they were allowed to be, but no gold has been found except on the Southern Rhodesian boundary, and no diamonds anywhere in the Territory, though the really arid Kalahari has been rarely visited by geologists and the surface sand is very baffling to the earnest seeker after minerals.

For a long time to come, at all events, the Kalahari must depend on its pastoral prospects, and expect no boost of capital from minerals.

The pastoral industry by itself will not support a large population, perhaps as little as one to the square mile, but



even that allows for considerable expansion, since the present rate is only one to the square mile, taking the country as a whole, and in the pastoral-areas-to-be it is more like one to ten square miles.

The agriculture of the Railway Belt will continue, but it cannot increase in any remarkable way, since the occasional droughts or late rains make it a marginal occupation.

There remains the undetermined future of the Okavango Triangle, about which so many optimistic forecasts have been made in the past. As we have seen, there is ample water and a moderate supply of unskilled labour there already; what will be needed is capital, skilled supervision and good communications. One can hardly speak of it as the Gezirah of the south—the conditions are not sufficiently analogous—but the same approach can be made and the same type of development could be organised, if and when the political situation is stabilised.

In the long run, therefore, and taking the broad view, we may think of this sprawling Kalahari as no longer a completely marginal region, but as producing timber in the north-east, crops in the Okavango, and coal in the east, surrounded by mixed culture and a beef industry widely and very thinly spread over what was once named, so wrongly, the Desert.



*Damara Long-horned Ox*

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